KV-1204/1215

USA Model

Chassis No. { SCC-110B-A (KV-1204) / SCC-110A-A (KV-1215)

KV-1204

KV-1215

TRINITRON® COLOR TV

SPECIFICATIONS

Television System:	American TV standards
Color System:	NTSC
Picture Tube:	30 cm, 12" (measured diagonally), 90° deflection TRINITRON system
Semiconductors:	1 FET, 48 transistors, 38 (39) diodes, 2 (3) ICs and 1 GCS ( ): KV-1215
Antennas:	VHF: 300Ω balanced (telescopic dipole*) UHF: 300Ω balanced (loop antenna*) * Note: Supplied with accessories.
Channel Coverage:	VHF channels: 2-13 UHF channels: 14-83 (70-position detent tuner)
Intermediate Frequencies:	Picture i-f carrier: 45.75 MHz Color subcarrier: 42.17 MHz Sound i-f carrier: 41.25 MHz
Sound System:	4.5 MHz intercarrier Output power: 1.5 W (at 10% harmonic distortion) Speaker: 12 x 8 cm (4-3/4 x 3-1/8 inches) oval, 8Ω
Video System:	RGB cathode drive
Automatic Controls:	ABL (automatic brightness limiter) ACC (automatic color control) ACK (automatic color killer) ADG (automatic degaussing) AFC (automatic frequency control) AFT (automatic fine tuning) AGC (automatic gain control) ANC (automatic noise canceller) AVR (automatic voltage regulator)
Anode Voltage:	23.5 kV at zero beam current
Power Requirements:	120 V AC, 60 Hz
Power Consumption:	95 W (max.)
Dimensions:	446(w) x 343(h) x 375(d)mm 17-5/8(w) x 13-1/2(h) x 14-3/4(d) inches .... KV-1204 472(w) x 345(h) x 375(d)mm 18-5/8(w) x 13-5/8(h) x 14-3/4(d) inches KV-1215
Net Weight:	13.1 kg (28 lb 14 oz) ..... KV-1204 13.5 kg (29 lb 12 oz) KV-1215
Accessories:	Earphone (ME-20B) VHF dipole antenna (AN-16) UHF loop antenna (AN-15) Instruction manual

WARNING!!

TO ELIMINATE SHOCK HAZARD AND PROTECT EQUIPMENT WHEN SERVICING THE SET WITH THE COVERS REMOVED, MAKE SURE THAT THE SET IS PLUGGED INTO A SUITABLY-RATED ISOLATION TRANSFORMER.

X-RAY RADIATION WARNING!!

REPLACE COMPONENTS IDENTIFIED ON THE SCHEMATIC DIAGRAMS BY SHADING WITH SONY PARTS HAVING THE PART NUMBERS GIVEN IN THIS MANUAL, OR APPROVED SUPPLEMENTS, ONLY. CHECK HIGH VOLTAGE USING THE VALUE AND OPERATING CONDITIONS SHOWN ON THE SCHEMATIC DIAGRAM.

SONY®

SERVICE MANUAL

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.

2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.

3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.

4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.

5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.

6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.

7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.

8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate, be suspicious of your HV meter if sets always have low HV.

9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground must not exceed 0.2 mA (200 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.3 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A.)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most a-c outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60 – 100 watt trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line. The lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B.)

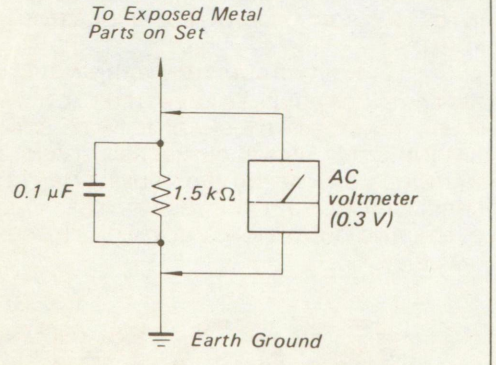


Fig. A. Using an AC voltmeter to check AC leakage.

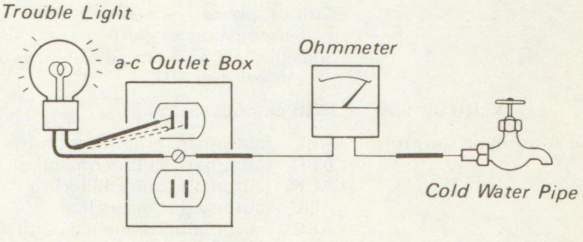
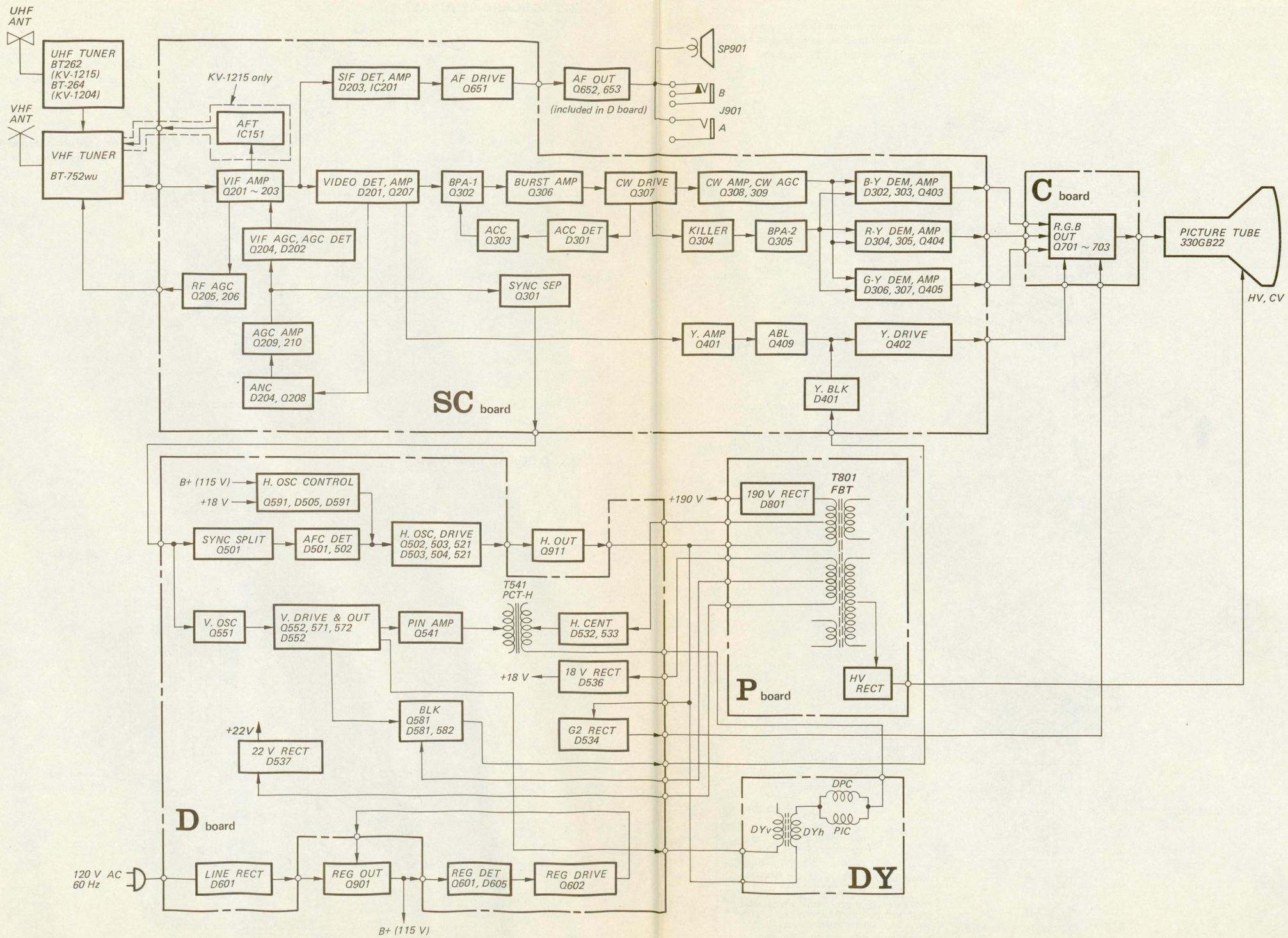


Fig. B. Checking for earth ground.

KV-1204
KV-1215

SECTION 1
BLOCK DIAGRAM



KV-1204 KV-1215

SECTION 2
DISASSEMBLY AND REPLACEMENT

2-1. PICTURE TUBE REMOVAL

Remove the picture tube in numerical order.

Note: All screws are Phillips (cross recess) type. When removing the cabinet or chassis, take out all the screws marked ⇒ on them.

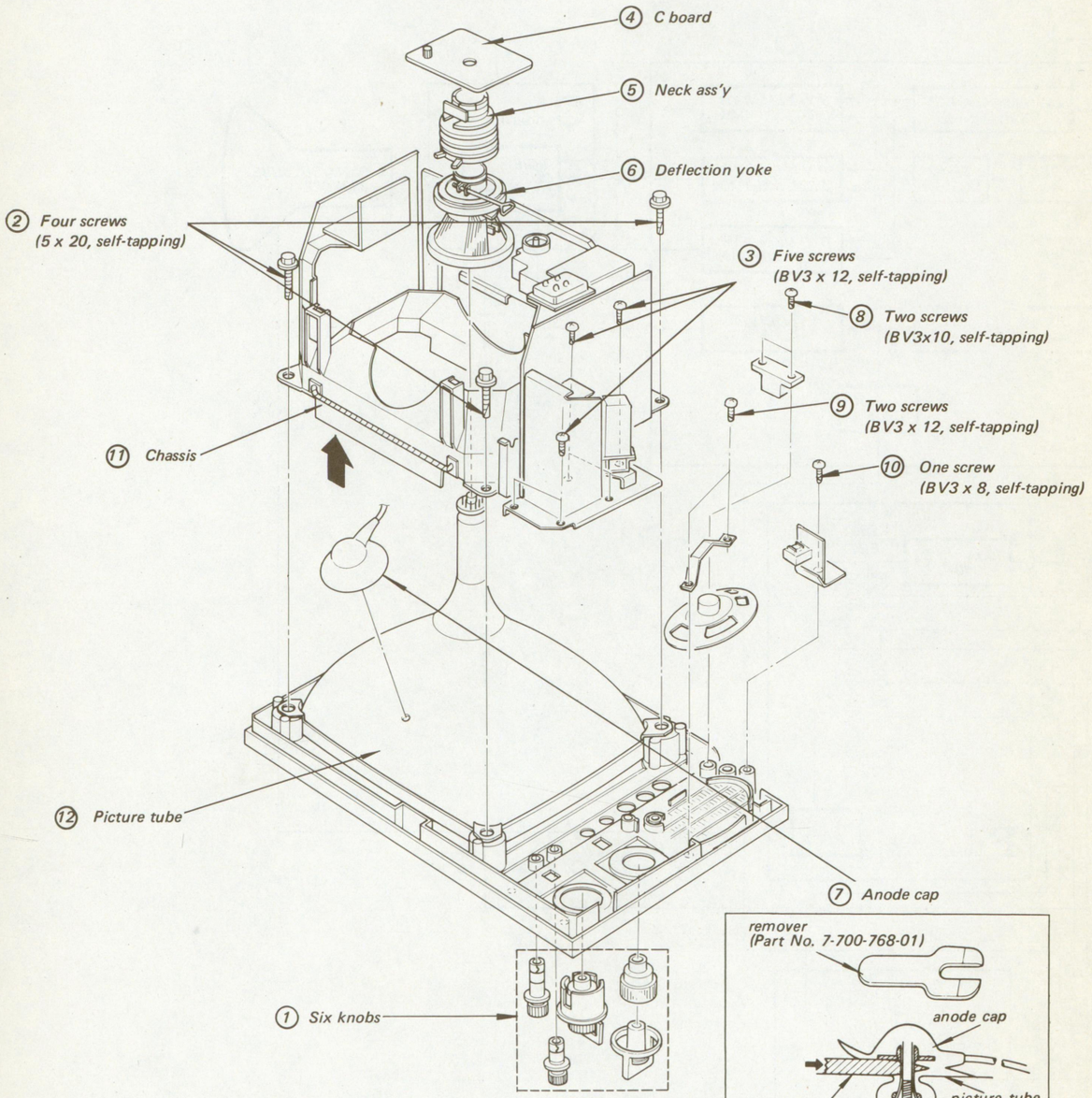


Fig. 2-1. Picture tube removal

2-2. SC BOARD REMOVAL

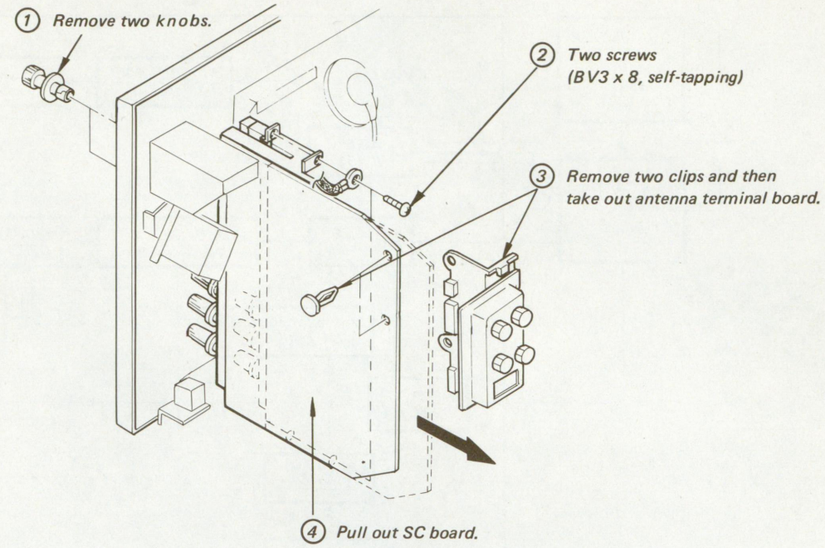


Fig. 2-2. SC board removal

2-3. D BOARD REMOVAL

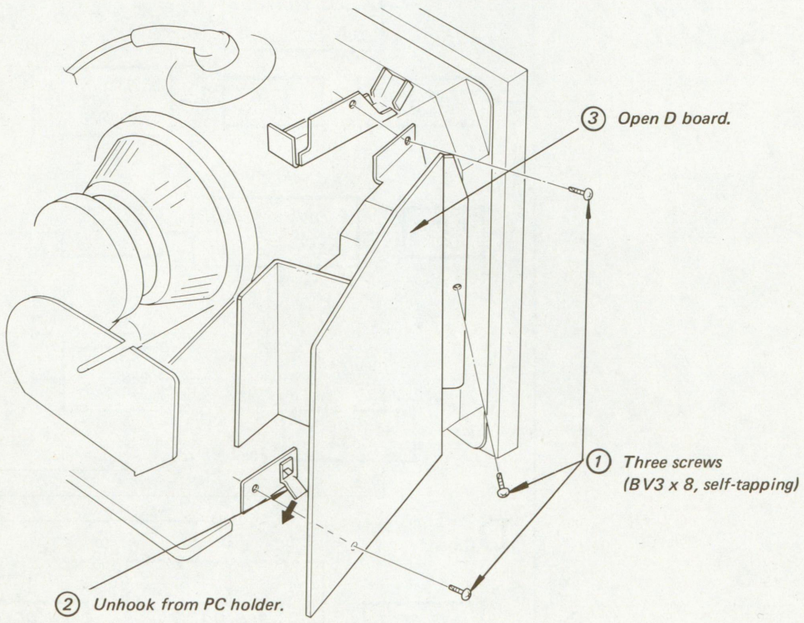


Fig. 2-3. D board removal

2-4. UHF TUNER DIAL CALIBRATION

1. Turn the tuner shaft fully counterclockwise.
2. Set the digits on the dial drums as shown in Fig. 2-4, and then fix them with cellophane tape.
3. Mesh the dial drums with the skip gear as shown in Fig. 2-5.
4. Install the compression spring and drum support on the drum shaft. Then, install the dial drums and the meshed skip gear (See Fig. 2-6).
5. Tighten the UHF tuner with three screws (PS3x5), and then install the drive gear as shown in Fig. 2-7. Remove the cellophane tape.
6. Confirm that the tuner drums indicate "14" by turning the shaft fully counterclockwise, while "83" by turning the shaft fully clockwise.

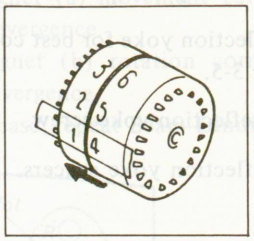


Fig. 2-4. Digit setting

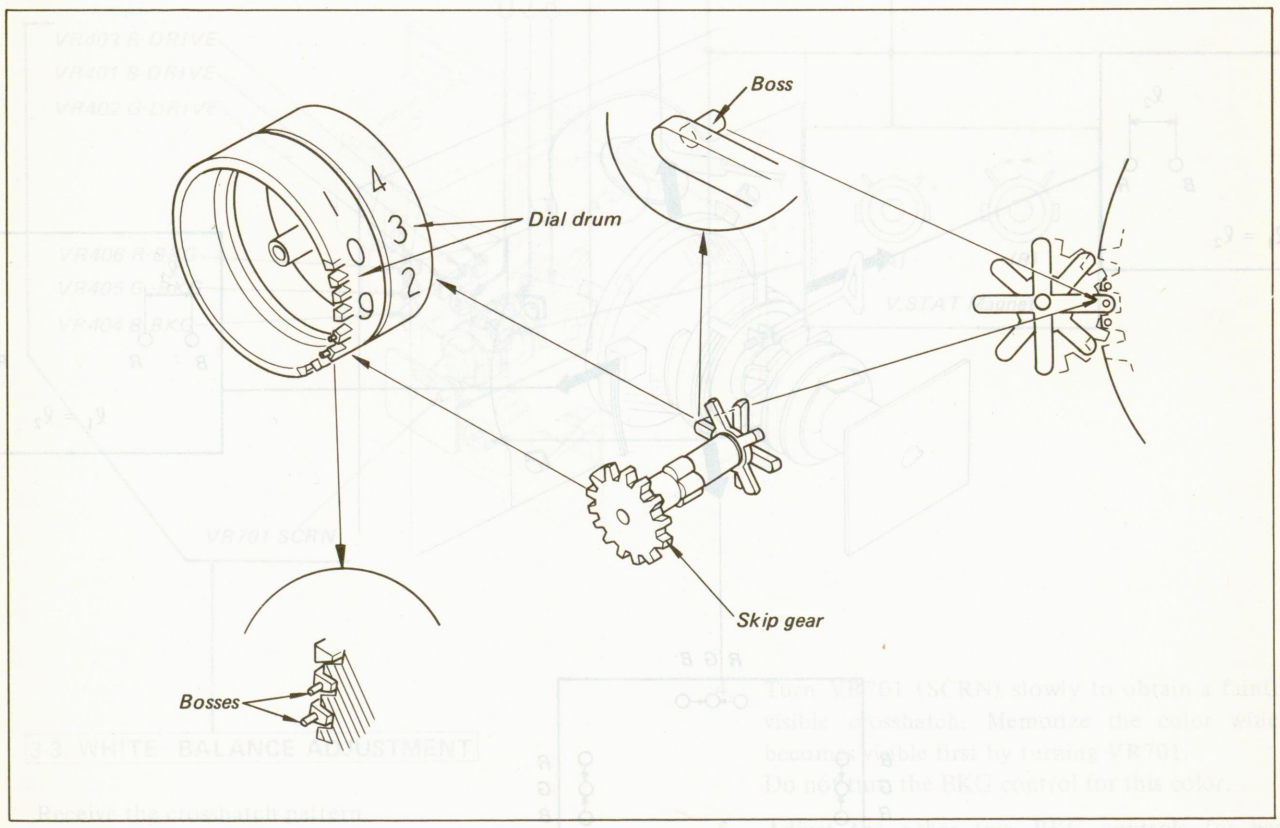


Fig. 2-5. UHF tuner dial calibration (1)

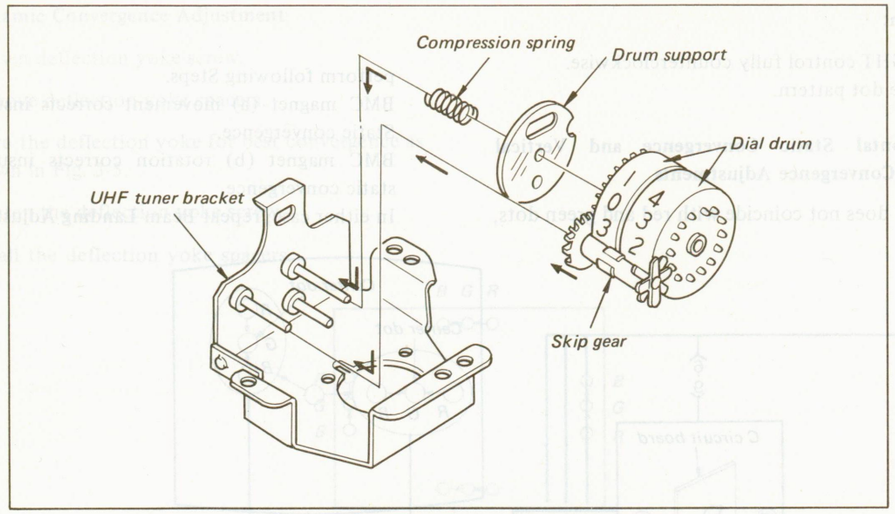


Fig. 2-6. UHF tuner dial calibration (2)

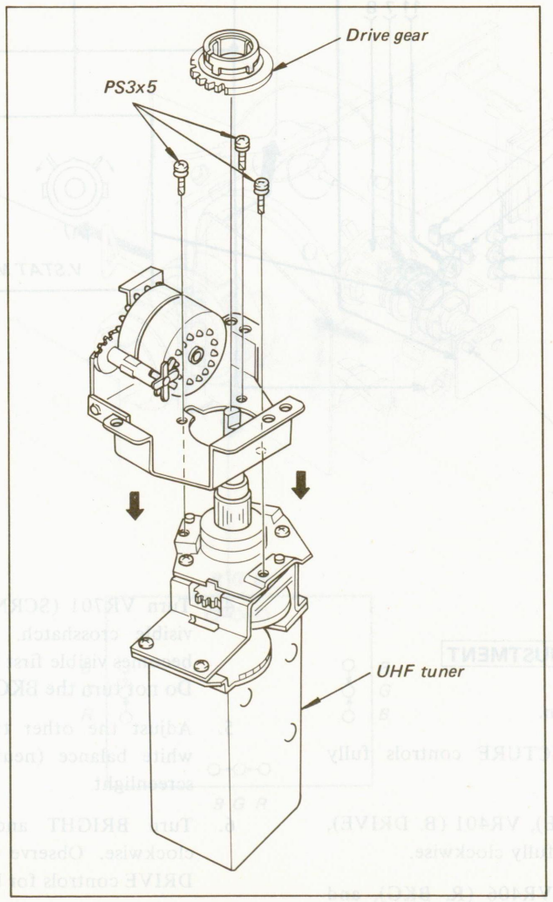


Fig. 2-7. UHF tuner dial calibration (3)

2-5. CIRCUIT BOARDS LOCATION

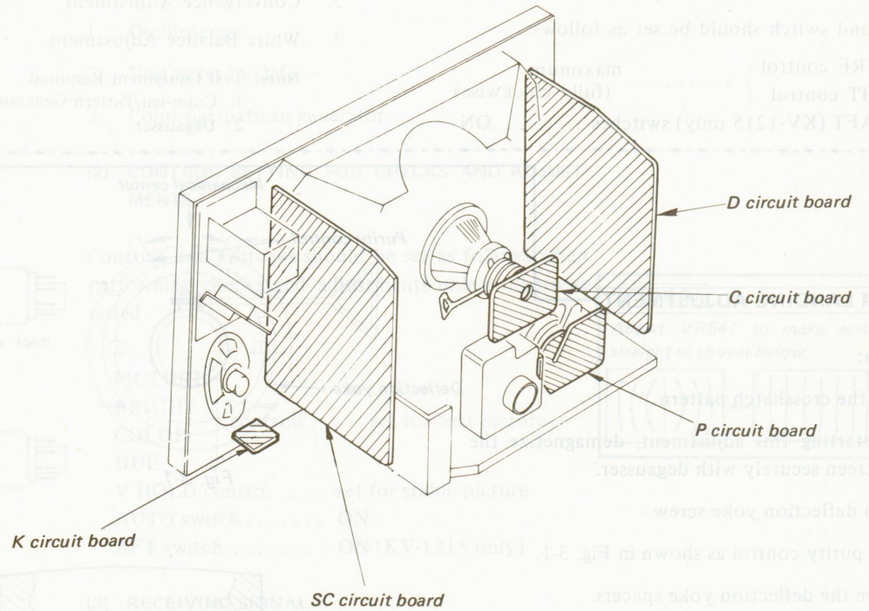


Fig. 2-8. Circuit boards location

SECTION 3
SETUP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

Controls and switch should be set as follows:

PICTURE control, BRIGHT control } ..... maximum (fully clockwise)
AUTO, AFT (KV-1215 only) switches .....ON

Perform the adjustments in order as follows:

1. Beam Landing Adjustment
2. Convergence Adjustment
3. White Balance Adjustment

Note: Test Equipment Required.
1. Color-bar/Pattern Generator
2. Degausser

3-1. BEAM LANDING ADJUSTMENT

Preparation:

- Receive the crosshatch pattern.
- Before starting this adjustment, demagnetize the whole screen securely with degausser.

1. Loosen deflection yoke screw.
2. Adjust purity control as shown in Fig. 3-1.
3. Remove the deflection yoke spacers.
4. Slide deflection yoke forward as far as it will go.
5. Position neck ass'y as shown in Fig. 3-2.
6. Disconnect leads ⑥ and ⑦ on the C circuit board.
7. Adjust purity control to center vertical red band as shown in Fig. 3-3.
8. Slide deflection yoke backward for a uniform red screen.
9. Check green and blue rasters for uniformity.
   To get a uniform green screen.
   ....Connect lead ⑥ on the C circuit board.
   Disconnect leads ⑤ and ⑦ .
   To get a uniform blue screen.
   ....Connect lead ⑦ on the C circuit board.
   Disconnect leads ⑤ and ⑥ .
   After these checks, connect the leads ⑤ , ⑥ and ⑦ .
10. Install the deflection yoke spacers.
11. Tighten the deflection yoke screw.
12. Check if mislanding appears at corners a ~ d as shown in Fig. 3-4. If mislanding is observed, correct it as shown in Fig. 3-4.
13. Confirm that mislanding is not observed although the receiver is faced in any direction.

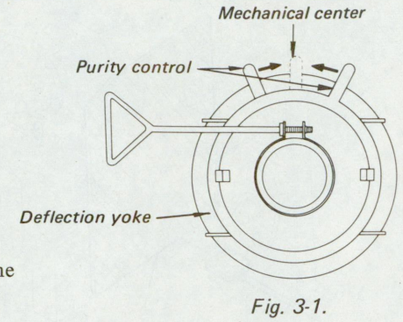


Fig. 3-1.

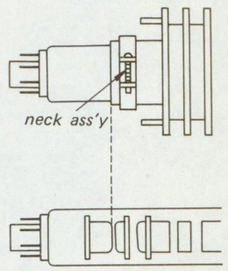


Fig. 3-2.

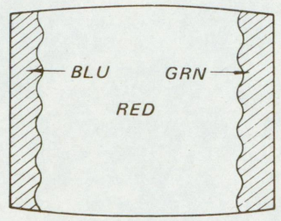


Fig. 3-3.

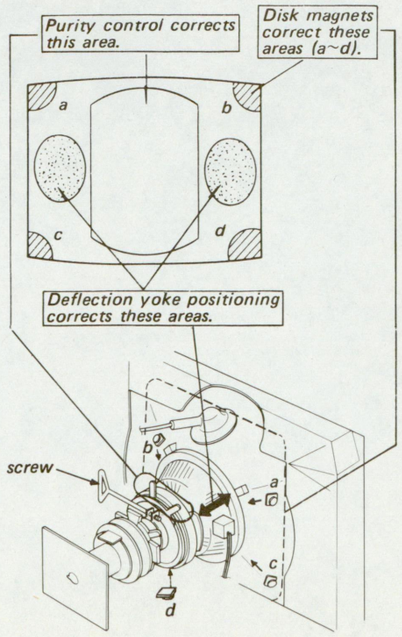


Fig. 3-4.

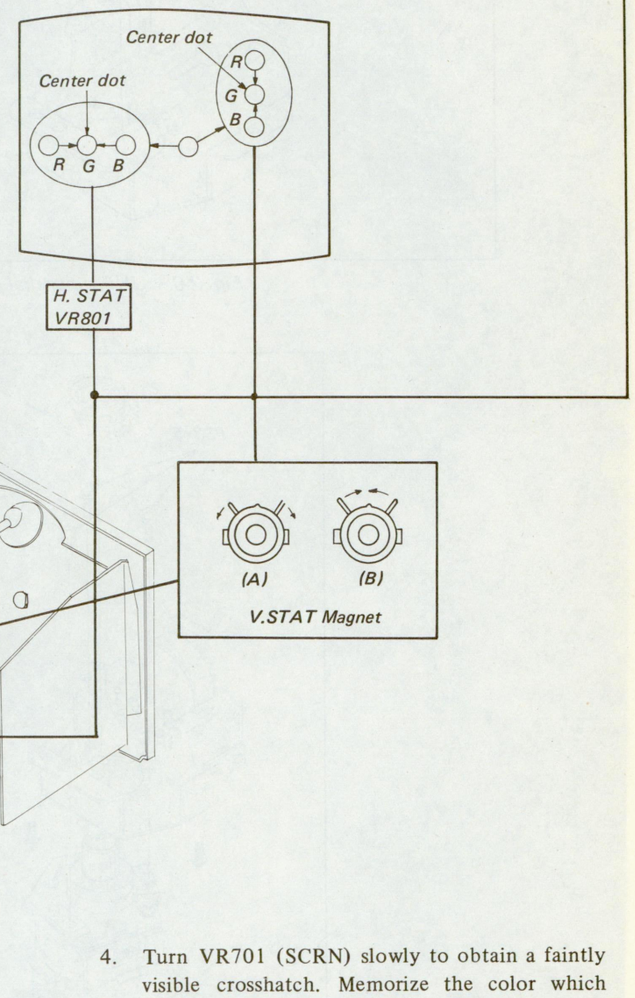
3-2. CONVERGENCE ADJUSTMENT

Preparation:

Turn BRIGHT control fully counterclockwise.
Receive the dot pattern.

(1) Horizontal Static Convergence and Vertical Static Convergence Adjustments

If blue dot does not coincide with red and green dots, perform following Steps.
BMC magnet (a) movement corrects insufficient H. Static convergence.
BMC magnet (b) rotation corrects insufficient V. static convergence.
In either case, repeat Beam Landing Adjustment.



3-3. WHITE BALANCE ADJUSTMENT

Receive the crosshatch pattern.

1. Turn BRIGHT and PICTURE controls fully counterclockwise.
2. Turn VR402 (G. DRIVE), VR401 (B. DRIVE), and VR403 (R. DRIVE) fully clockwise.
3. Set VR404 (B. BKG), VR406 (R. BKG), and VR405 (G. BKG) to mechanical center.
4. Turn VR701 (SCRN) slowly to obtain a faintly visible crosshatch. Memorize the color which becomes visible first by turning VR701.
   Do not turn the BKG control for this color.
5. Adjust the other two BKG controls for best white balance (neutral gray) at faintly visible screenlight.
6. Turn BRIGHT and PICTURE controls fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
7. Repeat Steps 1 through 6 several times.

(2) Dynamic Convergence Adjustment

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown in Fig. 3-5.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

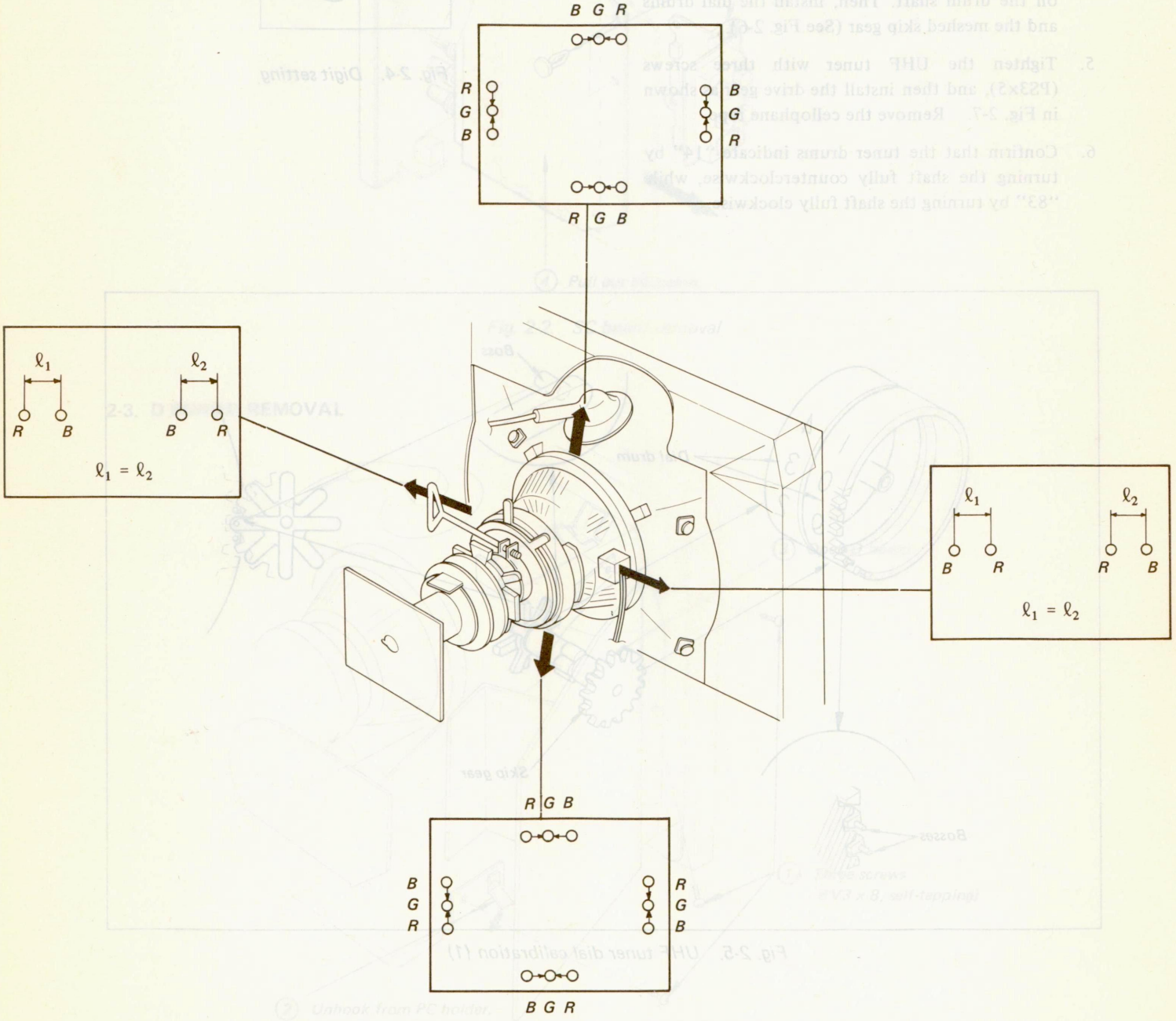


Fig. 3-5.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. D CIRCUIT BOARD ADJUSTMENTS

Note:

(1) TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. Voltmeter (VOM)
3. Color-bar/pattern generator

(2) CONTROL SETTING FOR CHECKS AND ADJUSTMENTS

Controls and switches should be set as follows when performing checks and adjustments unless otherwise noted.

PICTURE, BRIGHT, COLOR, HUE } controls . . . . . set for best picture
V HOLD control . . . . set for stable picture
AUTO switch . . . . . ON
AFT switch . . . . . ON (KV-1215 only)

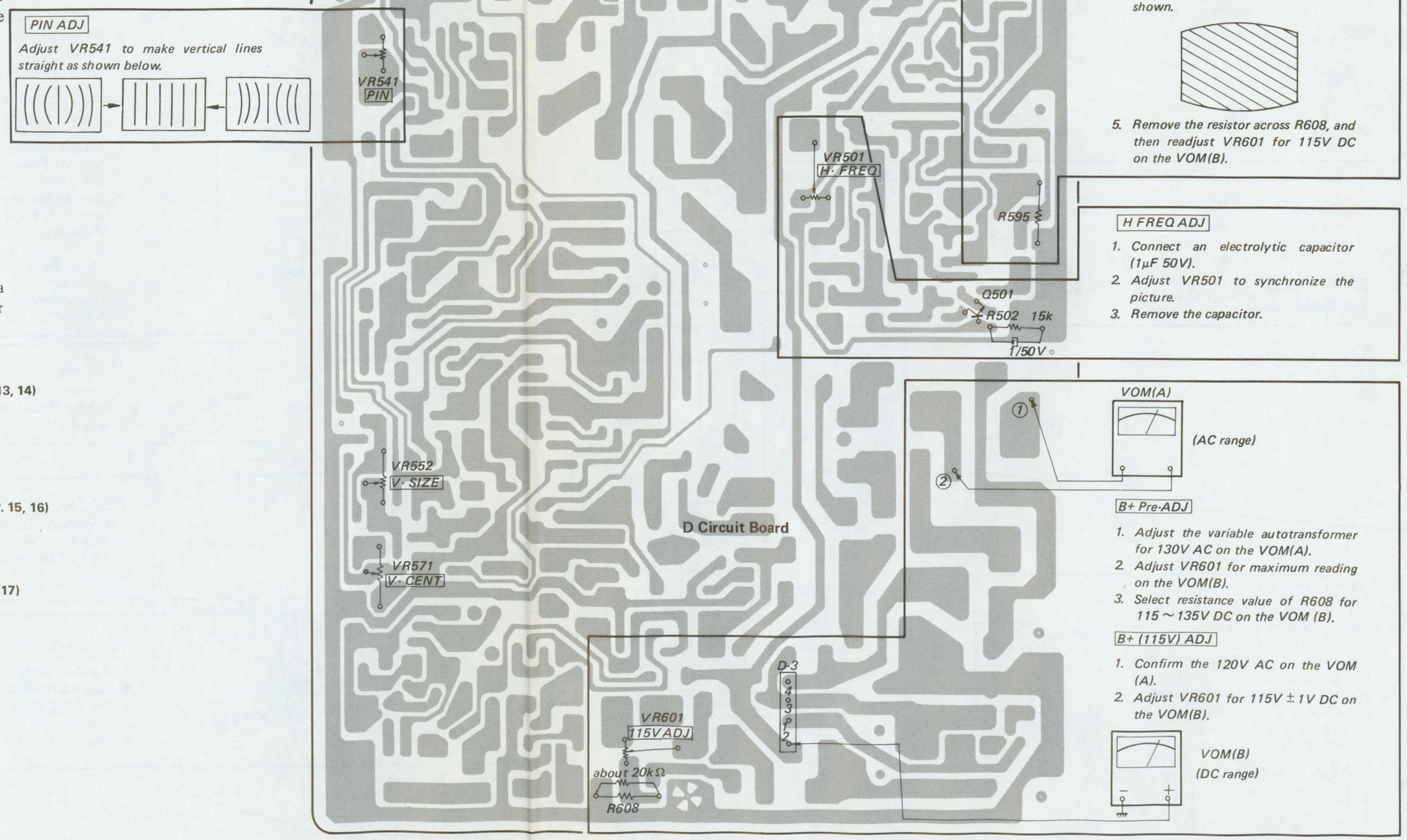
(3) RECEIVING SIGNAL

When performing these adjustments, receive any of a crosshatch signal, a color-bar signal or an off-the-air signal.

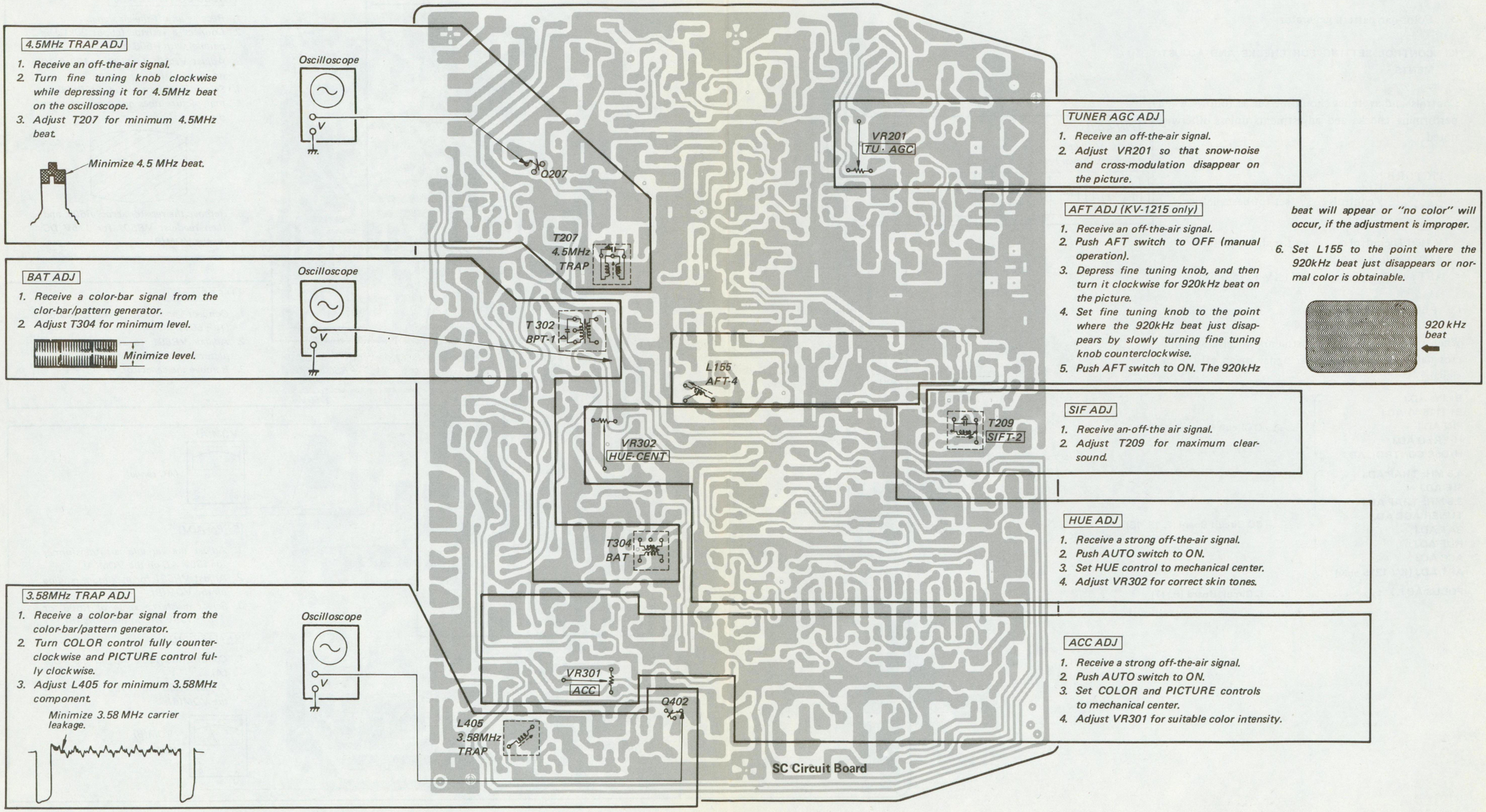
B+ Pre-ADJ
B+ (115 V) ADJ
PIN ADJ
H·FREQ ADJ
H·OSC CONTROL ADJ
. . . . . D Circuit Board (P. 13, 14)

4.5 MHz TRAP ADJ
SIF ADJ
3.5 MHz TRAP ADJ
TUNER AGC ADJ
BAT ADJ
HUE ADJ
ACC ADJ
AFT ADJ (KV-1215 only)
. . . . . SC Circuit Board (P. 15, 16)

FOCUS ADJ. . . . . C Circuit Board (P. 17)



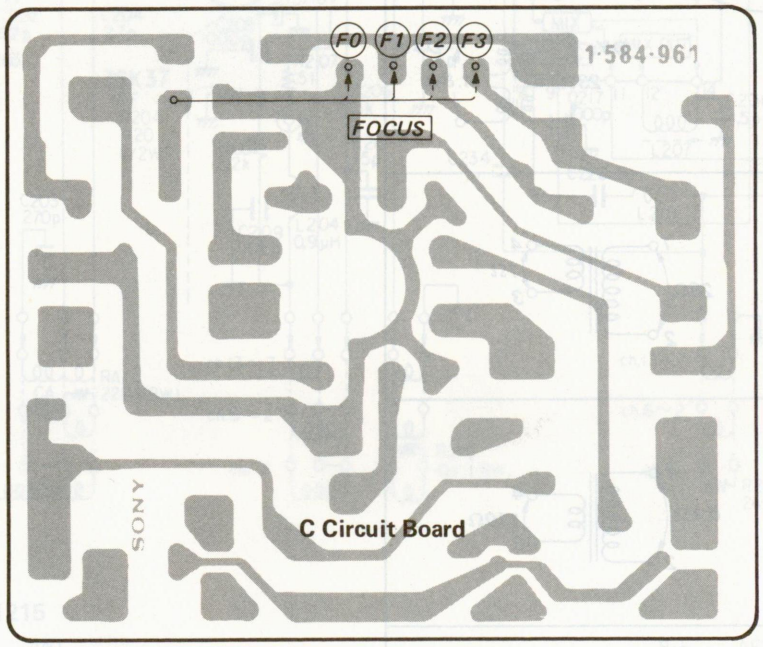
4-2. SC CIRCUIT BOARD ADJUSTMENTS



4-3. C CIRCUIT BOARD ADJUSTMENT

FOCUS ADJ

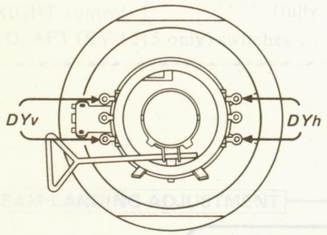
Select one of these connections (F0 ~ F3) for best focus.

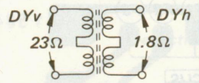


SECTION 5
DIAGRAMS

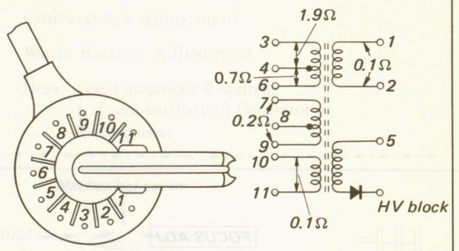
5-1. DC RESISTANCE AND WINDING DIAGRAMS OF COIL AND TRANSFORMERS

L901 DY

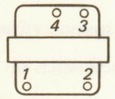


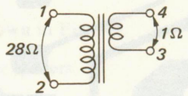


T801 FBT

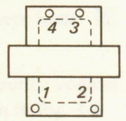


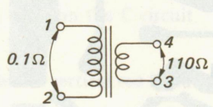
T521 HDT



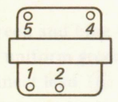


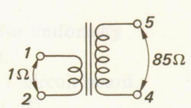
T541 PCT-H





T681 SOT





Note: DC resistance measurements shown with coil disconnected from circuit.

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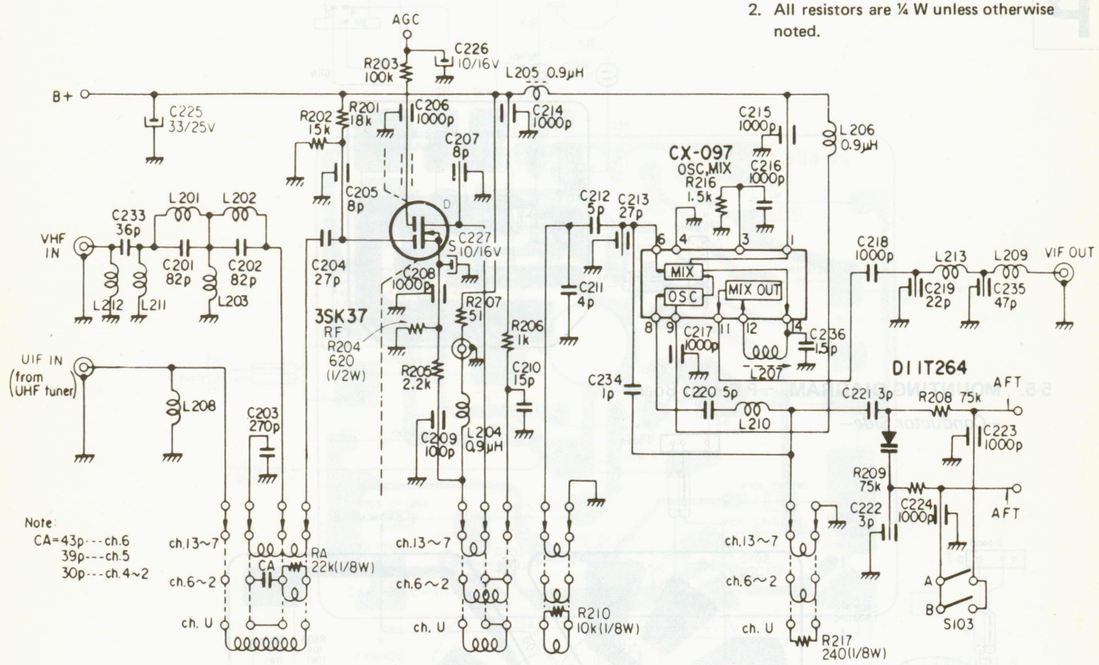
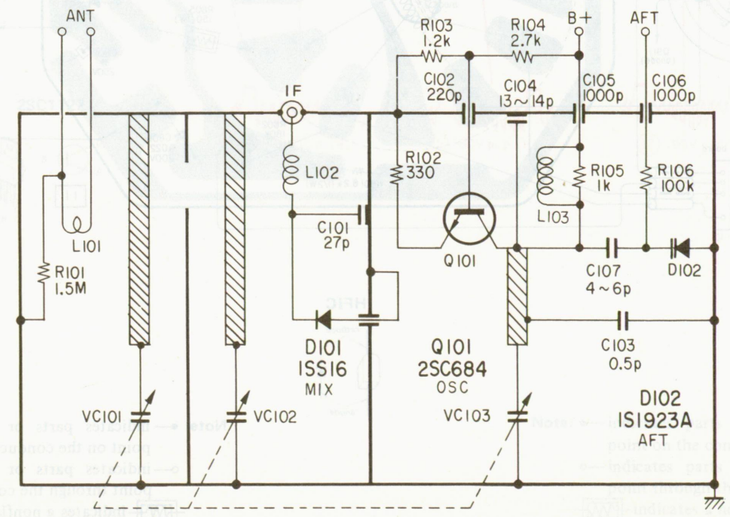
5-2. VHF AND UHF TUNER SCHEMATIC DIAGRAMS

– VHF tuner –
(BT-752Wu)

Note: 1. Tuner reference numbers and values are not included in the Electrical Parts List (Page 35 ~ 41).
2. All resistors are ¼ W unless otherwise noted.



– UHF tuner –
(BT-262) KV-1215



5-2. VHF AND UHF TUNER SCHEMATIC DIAGRAMS

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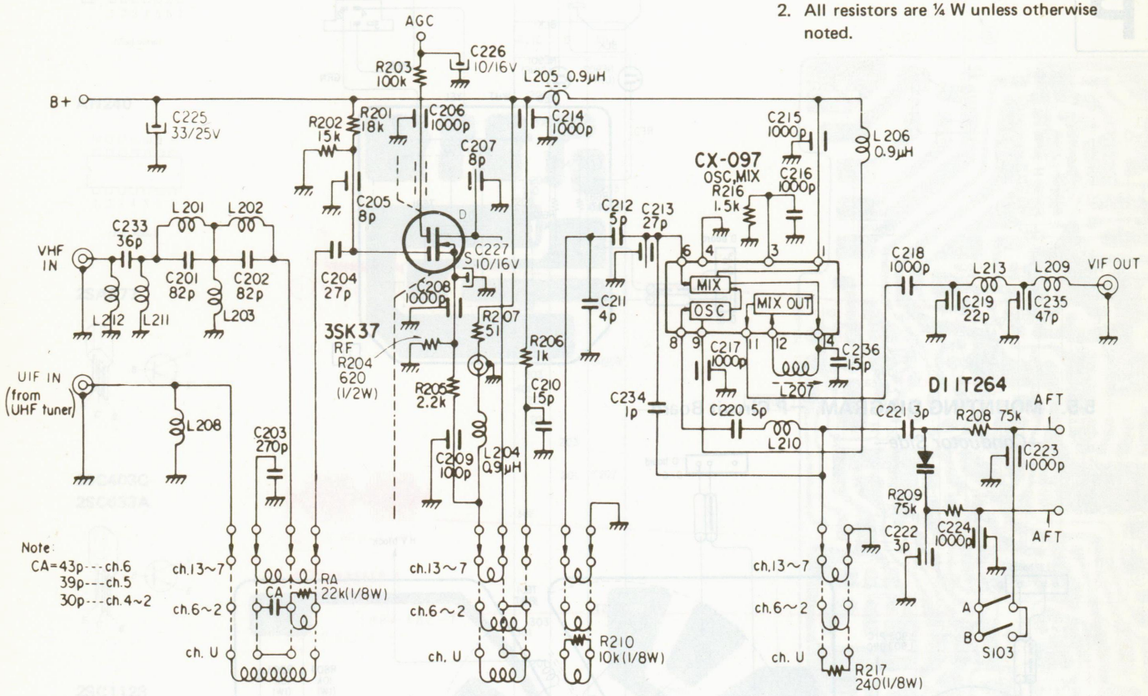
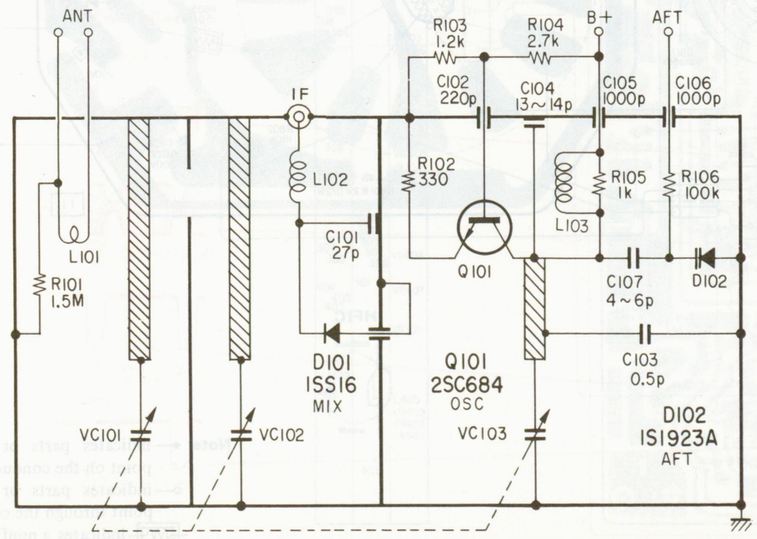
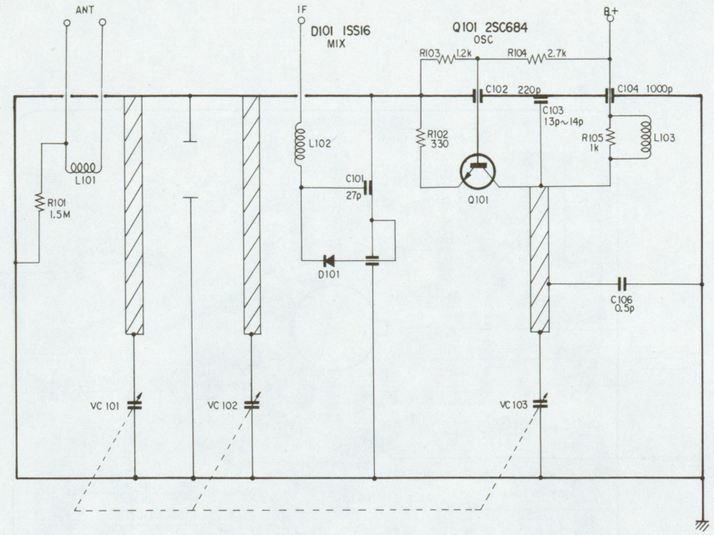


– UHF tuner –
(BT-262) KV-1215



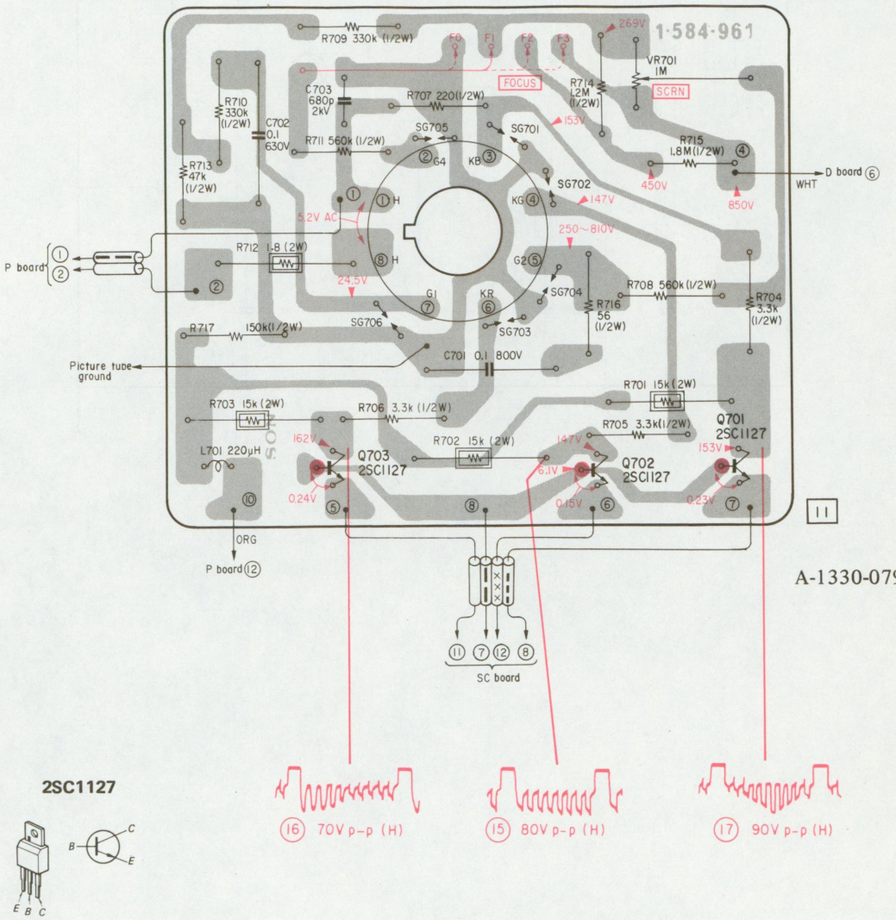
–UHF tuner–
(BT-264) ------ KV-1204



C

5-3. MOUNTING DIAGRAM —C Circuit Board—

—Conductor Side—



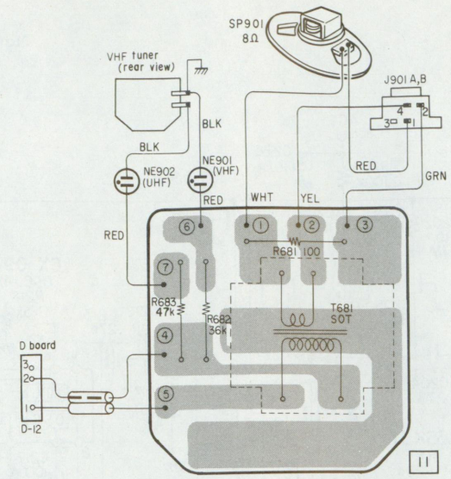
Note: •— indicates parts or wire connection point on the conductor side.
o— indicates parts or wire connection point through the component side.
—[R]— indicates a nonflammable resistor.

K

P

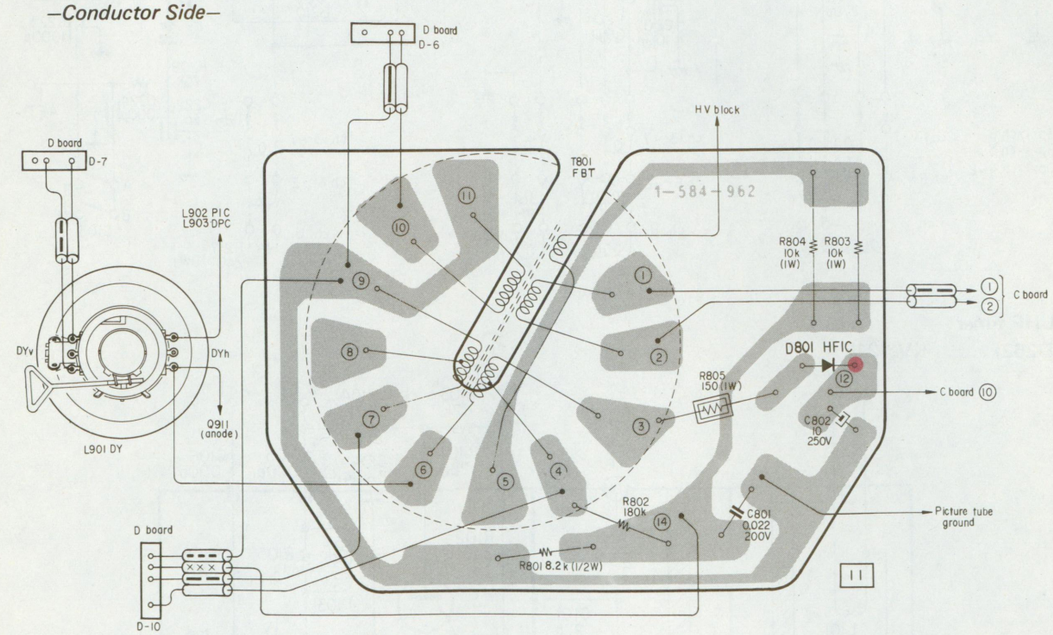
5-4. MOUNTING DIAGRAM — K Circuit Board—

—Conductor Side—

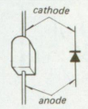


5-5. MOUNTING DIAGRAM —P Circuit Board—

—Conductor Side—

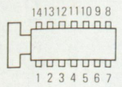


HFIC



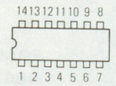
Note: •— indicates parts or wire connection point on the conductor side.
o— indicates parts or wire connection point through the component side.
—[R]— indicates a nonflammable resistor.

CX089D
(KV-1215 only)



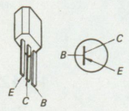
(Top view)

AN240

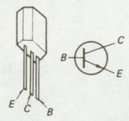


(Top view)

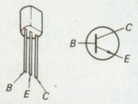
2SA677



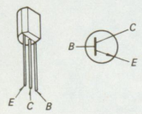
2SC403C
2SC633A



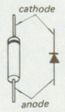
2SC1128
2SC1129



2SC1363



1T22
1T22A
1T261
1T40



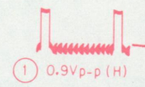
5-6. MOUNTING DIAGRAM—SC Circuit Board —

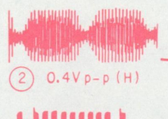
—Conductor Side—

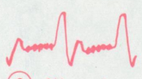
SC SC

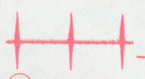
Note: ●— indicates parts or wire connection point on the conductor side.
○— indicates parts or wire connection point through the component side.
▭ indicates a nonflammable resistor.
■ indicates parts on the conductor side.

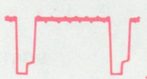
Q, IC	D	ADJ
205		
206	202	
209		
204	204	
210		VR203
208		VR205
207		VR201
		VR204
203		
401		
202		
201		
	203	
	201	T207
302		
IC151		T208
303		
301		
IC201		
		VR302
		T209
305		
306		
304		VR303
		VR406
309		VR405
		VR304
	305	
	304	
	302	
307	303	
308	307	VR404
	306	
404	301	
405		VR407
403		
		VR301
402		
409		L405
		VR403
		VR401
		VR402
	401	

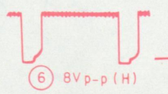


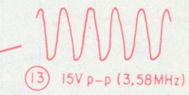


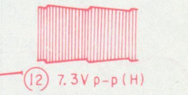


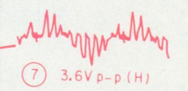


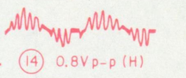


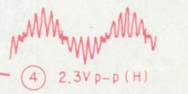












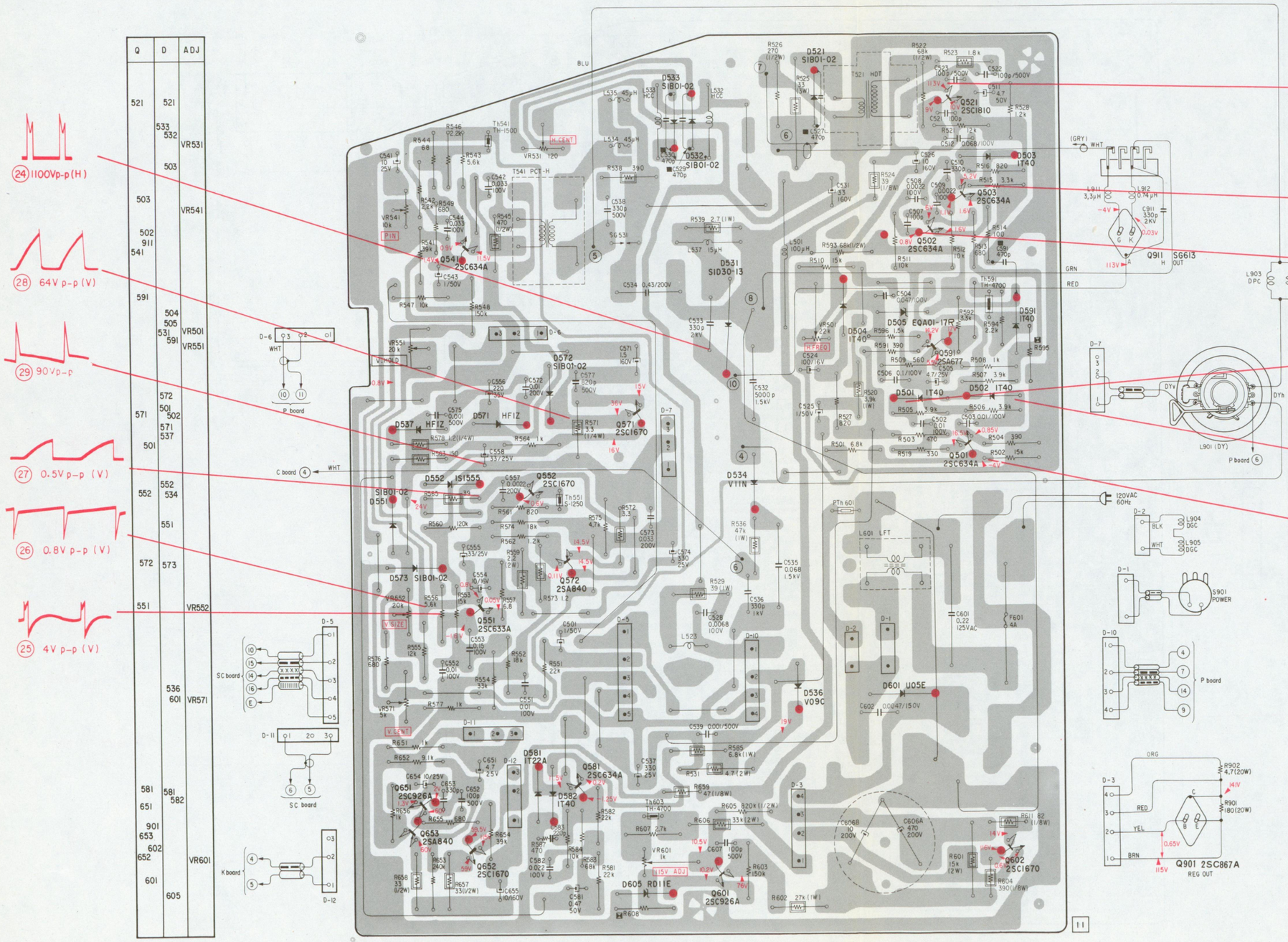
A-1305-061-A

5-7. MOUNTING DIAGRAM —D Circuit Board—

—Conductor Side—

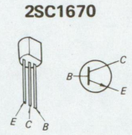
D D

Note: ●—indicates parts or wire connection point on the conductor side.
○—indicates parts or wire connection point through the component side.
—indicates a nonflammable resistor.
indicates factory selected values.
■ indicates parts on the conductor side. The symbol printed on the conductor side of circuit board indicates that complete connection should be especially made.

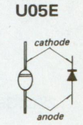


A-1345-086-A

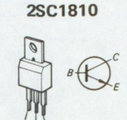
2SA677



1T22A
1T40
1S1555
RD11E

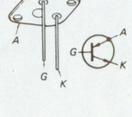


2SA840



EQA01-25R
SIB01-02

2SC633A
2SC634A
2SC926A



HF1Z

2SC867A

SID30-13

2SC1670

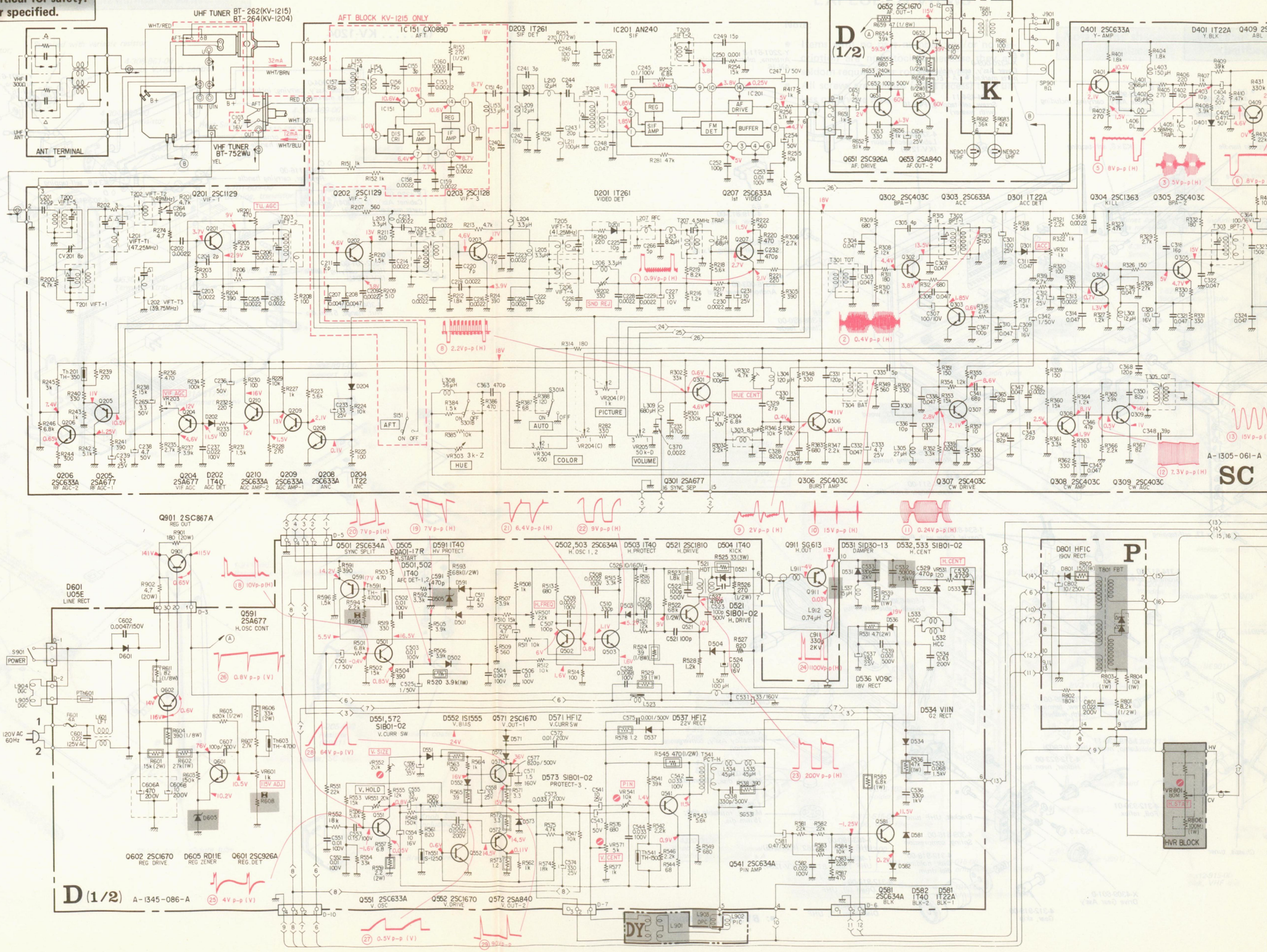
V09C
V11N
U05E

2SC1810

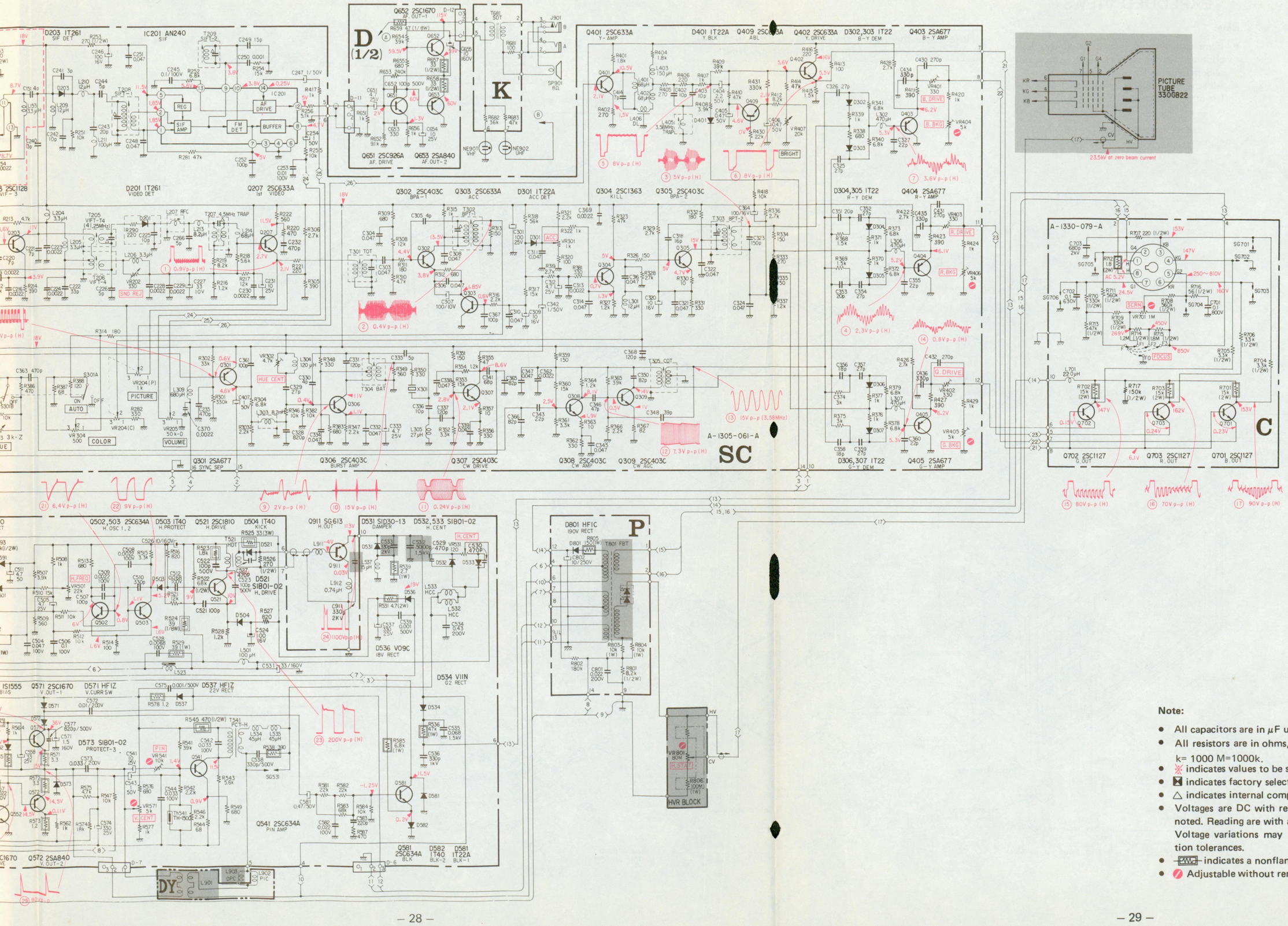
SG613

5-8. SCHEMATIC DIAGRAM

Note: The shaded components are critical for safety. Replace only with part number specified.



KV-1204
KV-1215



Note:

- All capacitors are in μF unless otherwise noted. p=μμF.
- All resistors are in ohms, 1/4W unless otherwise noted. k= 1000 M=1000k.
- ※ indicates values to be selected.
- ▣ indicates factory selected values.
- △ indicates internal components.
- Voltages are DC with respect to ground unless otherwise noted. Reading are with a color-bar signal applied. Voltage variations may be noted due to normal production tolerances.
- ⊟FW⊞ indicates a nonflammable resistor.
- Adjustable without removing cabinet.

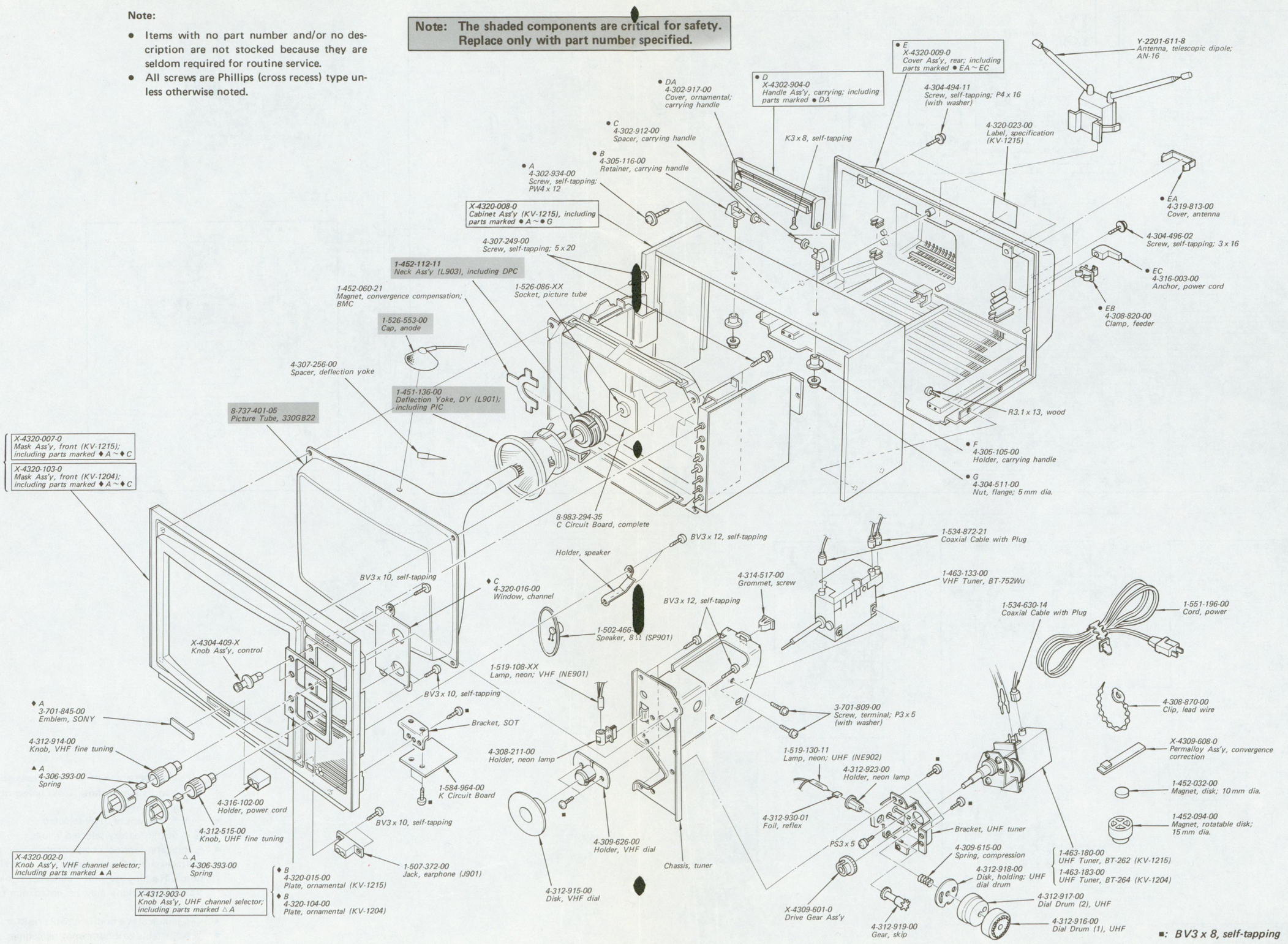
KV-1204
KV-1215

SECTION 6
EXPLODED VIEWS

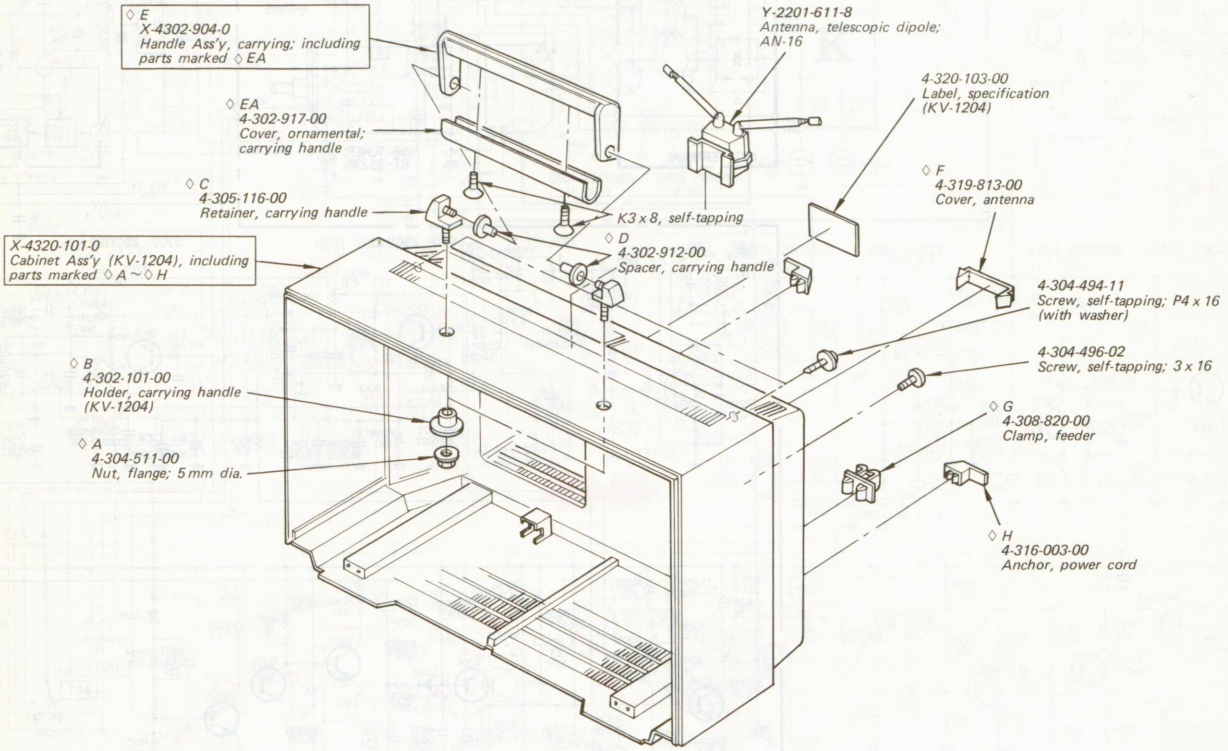
Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.

Note: The shaded components are critical for safety. Replace only with part number specified.

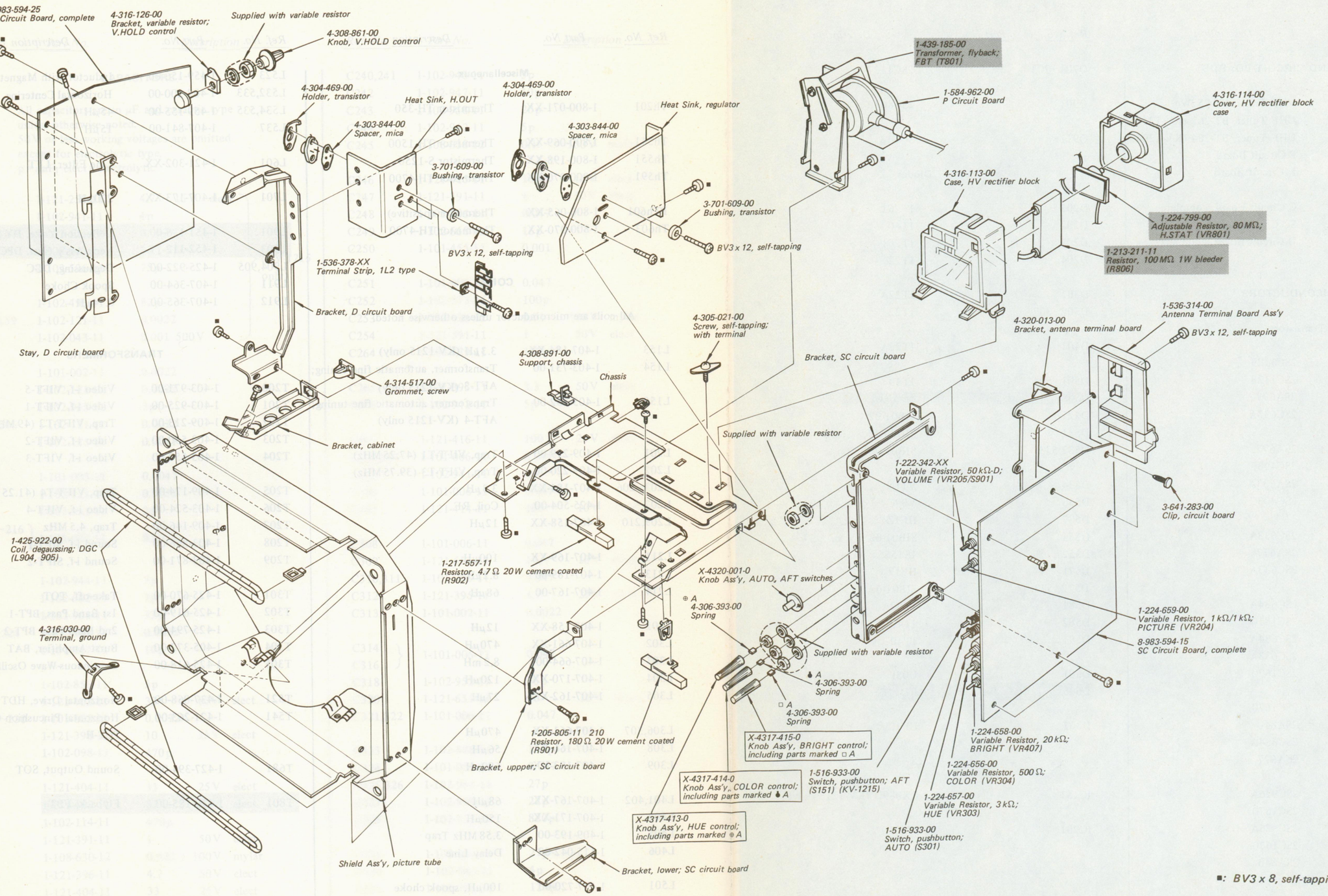


(2) KV-1204


◇ E
X-4302-904-0
Handle Ass'y, carrying; including parts marked ◇ EA
◇ EA
4-302-917-00
Cover, ornamental; carrying handle
◇ C
4-305-116-00
Retainer, carrying handle
X-4320-101-0
Cabinet Ass'y (KV-1204), including parts marked ◇ A ~ ◇ H
◇ B
4-302-101-00
Holder, carrying handle (KV-1204)
◇ A
4-304-511-00
Nut, flange; 5 mm dia.
Y-2201-611-8
Antenna, telescopic dipole; AN-16
K3 x 8, self-tapping
◇ D
4-302-912-00
Spacer, carrying handle
4-320-103-00
Label, specification (KV-1204)
◇ F
4-319-813-00
Cover, antenna
4-304-494-11
Screw, self-tapping; P4 x 16 (with washer)
4-304-496-02
Screw, self-tapping; 3 x 16
◇ G
4-308-820-00
Clamp, feeder
◇ H
4-316-003-00
Anchor, power cord

Note: The shaded components are critical for safety. Replace only with part number specified.

(3)



■: BV3 x 8, self-tapping

SECTION 7
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
		TUNERS AND CIRCUIT BOARDS
	1-463-133-00	VHF Tuner, BT-752Wu
	1-463-180-00	UHF Tuner, BT-262 (KV-1215)
	1-463-183-00	UHF Tuner, BT-264 (KV-1204)
	1-584-962-00	P Circuit Board
	1-584-964-00	K Circuit Board
	8-983-294-35	C Circuit Board, complete
	8-983-594-15	SC Circuit Board, complete
	8-983-594-25	D Circuit Board, complete
		SEMICONDUCTORS
		Transistors
Q201,202		2SC1129
Q203		2SC1128
Q204,205		2SA677
Q206~210		2SC633A
Q301		2SA677
Q302		2SC403C
Q303,304		2SA633A
Q305~309		2SC403C
Q401,402		2SC633A
Q403~405		2SA677
Q409		2SC633A
Q501~503		2SC634A
Q521		2SC1810
Q541		2SC634A
Q551		2SC633A
Q552		2SC1670
Q571		2SC1670
Q572		2SA840
Q581		2SC634A
Q591		2SA677
Q601		2SC926A
Q602		2SC1670
Q651		2SC926A
Q652		2SC1670
Q653		2SA840

Ref. No.	Part No.	Description
Q701~703		2SC1127
Q901		2SC867A
Q911		SG613
		Diodes
D201		1T261
D202		1T40
D203		1T261
D204		1T22
D301		1T22A
D302~307		1T22
D401		1T22A
D501~504		1T40
D505		EQA01-17R
D521		SIB01-02
D531		SID30-13
D532,533		SIB01-02
D534		V11N
D536		V09C
D537		HF1Z
D551		SIB01-02
D552		1S1555
D571		HF1Z
D572, 573		SIB01-02
D581		1T22A
D582		1T40
D591		1T40
D601		U05E
D605		RD11E
D801		HF1C
		ICs
IC151		CX089D (KV-1215 only)
IC201		AN240

Note: The shaded components are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
		Miscellaneous
Th201	1-800-071-XX	Thermistor TH-350
Th541	1-800-069-XX	Thermistor TH-1500
Th551	1-800-198-XX	Thermistor S-1250
Th591	1-800-070-XX	Thermistor TH-4700
PTh601	1-800-065-XX	Thermistor (positive)
Th603	1-800-070-XX	Thermistor TH-4700
		COILS
		All coils are microinductor unless otherwise noted.
L153	1-407-184-XX	3.3 μH (KV-1215 only)
L154	1-403-731-00	Transformer, automatic fine tuning; AFT-3 (KV-1215 only)
L155	1-403-732-00	Transformer, automatic fine tuning; AFT-4 (KV-1215 only)
L201	1-409-219-00	Trap, VIFT-T1 (47.25 MHz)
L202	1-409-220-00	Trap, VIFT-T3 (39.75 MHz)
L203~206	1-407-184-XX	3.3 μH
L207	1-425-504-00	Coil, RF
L209,210	1-407-158-XX	12 μH
L211	1-407-169-XX	100 μH
L213	1-407-189-00	8.2 μH
L214	1-407-167-00	68 μH
L301	1-407-158-XX	12 μH
L302	1-407-661-XX	470 μH
L303	1-407-664-00	8.2 mH
L304	1-407-170-XX	120 μH
L305	1-407-162-XX	27 μH
L306,307	1-407-661-XX	470 μH
L308	1-407-166-XX	56 μH
L309	1-407-193-XX	680 μH
L401,402	1-407-167-XX	68 μH
L403	1-407-171-XX	150 μH
L405	1-409-193-00	3.58 MHz Trap
L406	1-415-042-00	Delay Line
L501	1-407-720-00	100 μH, spook choke

Ref. No.	Part No.	Description
L523	1-459-156-00	Inductor with Magnetic Core
L532,533	1-407-200-00	Horizontal Centering, HCC
L534,535	1-459-155-00	45 μH
L537	1-407-841-00	15 μH
L601	1-421-302-XX	Line Filter, LFT
L701	1-407-173-XX	220 μH
L901	1-451-136-00	Deflection Yoke, DY (incl. PIC)
L903	1-452-112-11	Neck Ass'y (incl. DPC)
L904,905	1-425-922-00	Degaussing, DGC
L911	1-407-364-00	Spook Choke
L912	1-407-365-00	0.74 μH
		TRANSFORMERS
T200	1-403-971-00	Video i-f, VIFT-5
T201	1-403-925-00	Video i-f, VIFT-1
T202	1-409-213-00	Trap, VIFT-T2 (49 MHz)
T203	1-403-550-00	Video i-f, VIFT-2
T204	1-403-550-00	Video i-f, VIFT-3
T205	1-409-174-00	Trap, VIFT-T4 (41.25 MHz)
T206	1-403-524-00	Video i-f, VIFT-4
T207	1-409-146-00	Trap, 4.5 MHz
T208	1-403-866-00	Sound i-f, SIFT-1
T209	1-403-871-00	Sound i-f, SIFT-2
T301	1-425-670-00	Take-off, TOT
T302	1-425-619-00	1st Band Pass, BPT-1
T303	1-425-794-00	2nd Band Pass, BPT-2
T304	1-405-372-00	Burst Amplifier, BAT
T305	1-425-618-00	Continuous-Wave Oscillation, COT
T521	1-437-068-00	Horizontal Drive, HDT
T541	1-421-263-00	Horizontal Pincushion Correction, PCT-H
T681	1-427-394-00	Sound Output, SOT
T801	1-439-185-00	Flyback, FBT

Note: The shaded components are critical for safety. Replace only with part number specified.

CAPACITORS

All capacitors are in μF and ceramic type unless otherwise noted.
50 V or less working voltages are omitted except for electrolytic type.
p = μμF, elect = electrolytic

Ref. No.	Part No.	Description
C103	1-121-257-11	4.7 16V elect (KV-1215 only)
C151	1-102-941-11	4p (KV-1215 only)
C153,154	1-102-121-11	0.0022 (KV-1215 only)
C155	1-102-940-11	3p (KV-1215 only)
C156	1-102-526-11	75p (KV-1215 only)
C157	1-102-496-11	82p (KV-1215 only)
C158,159	1-102-121-11	0.0022 (KV-1215 only)
C160	1-102-043-11	0.001 500V (KV-1215 only)
C202	1-101-002-11	0.0022
C203	1-102-121-11	0.0022
C204	1-102-935-11	2p
C205,206	1-102-121-11	0.0022
C207	1-102-125-11	0.0047
C208	1-101-003-11	0.0047
C209	1-102-121-11	0.0022
C211	1-102-935-11	2p
C212~216, C219	1-101-002-11	0.0022
C220	1-102-944-11	7p
C221	1-102-662-11	7p
C222	1-102-963-11	33p
C223,224	1-101-002-11	0.0022
C225	1-102-947-11	10p
C226	1-102-856-11	5p
C227	1-121-402-11	33 10V elect
C228~230	1-101-002-11	0.0022
C231	1-121-398-11	10 25V elect
C232	1-102-098-11	470p
C233	1-121-404-11	33 25V elect
C234	1-121-402-11	33 10V elect
C235	1-102-114-11	470p
C236	1-121-391-11	1 50V elect
C237	1-108-630-12	0.022 100V mylar
C238	1-121-396-11	4.7 50V elect
C239	1-121-404-11	33 25V elect
C240,241	1-102-940-11	3p
C242	1-102-947-11	10p
C243	1-102-958-11	20p
C244	1-102-942-11	5p
C245	1-108-638-12	0.1 100V mylar
C246	1-121-415-11	100 16V elect
C247	1-121-391-11	1 50V elect
C248	1-101-006-11	0.047
C249	1-102-668-11	15p
C250	1-101-455-11	0.001
C251	1-101-006-11	0.047
C252	1-102-973-11	100p
C253	1-108-626-12	0.01 100V mylar
C254	1-121-391-11	1 50V elect
C264	1-102-529-11	100p
C265	1-121-393-11	3.3 50V elect
C266	1-102-942-11	5p
C301	1-121-416-11	100 25V elect
C303,304	1-101-006-11	0.047
C305	1-102-941-11	4p
C306	1-101-006-11	0.047
C307	1-121-414-11	100 10V elect
C308	1-101-006-11	0.047
C309	1-121-651-11	10 16V elect
C310,311	1-101-006-11	0.047
C312	1-121-395-11	4.7 25V elect
C313	1-101-002-11	0.0022
C314, C316	1-101-006-11	0.047
C318	1-102-952-11	16p
C320	1-121-651-11	10 16V elect
C321,322	1-101-006-11	0.047
C323	1-102-888-11	150p
C324	1-101-006-11	0.047
C325,326	1-102-961-11	27p
C327	1-102-959-11	22p
C328	1-102-117-11	820p
C329	1-102-961-11	27p
C330	1-102-941-11	4p
C331	1-102-765-11	120p

Ref. No.	Part No.	Description
C332	1-101-006-11	0.047
C333	1-121-395-11	4.7 25V elect
C334	1-101-006-11	0.047
C335	1-102-942-11	5p
C336	1-102-858-11	10p
C337	1-102-816-11	120p
C338,339	1-101-006-11	0.047
C341	1-101-888-11	68p
C342	1-121-391-11	1 50V elect
C343	1-102-959-11	22p
C345	1-101-006-11	0.047
C346	1-101-880-11	47p
C347	1-101-006-11	0.047
C348	1-102-965-11	39p
C350	1-102-886-11	82p
C351	1-102-958-11	20p
C352	1-102-961-11	27p
C353	1-102-958-11	20p
C354	1-102-961-11	27p
C355	1-102-959-11	22p
C356	1-102-953-11	18p
C357	1-102-961-11	27p
C358	1-102-953-11	18p
C359	1-102-961-11	27p
C360	1-102-959-11	22p
C361	1-102-973-11	100p
C362	1-101-002-11	0.0022
C363	1-102-114-11	470p
C364	1-121-415-11	100 16V elect
C365,366	1-102-971-11	82p
C367	1-102-973-11	100p
C368	1-102-816-11	120p
C369, 370	1-101-002-11	0.0022
C402,403	1-102-858-11	10p
C404	1-121-450-11	2.2 50V elect
C405	1-121-726-11	0.47 50V elect
C406	1-121-951-11	0.47 50V elect
C407	1-121-391-11	1 50V elect
C414	1-102-944-11	7p
C430~432	1-102-111-11	270p
C434~436	1-102-113-11	390p

Ref. No.	Part No.	Description
C501	1-121-391-11	1 50V elect
C502,503	1-108-626-12	0.01 100V mylar
C504	1-108-634-12	0.047 100V mylar
C505	1-121-395-11	4.7 25V elect
C506	1-108-638-12	0.1 100V mylar
C507	1-102-973-11	100p
C508,509	1-108-911-12	0.0022 100V mylar
C510	1-102-832-11	330p
C511	1-121-396-11	4.7 50V elect
C512	1-108-636-12	0.068 100V mylar
C521	1-102-973-11	100p
C522,523	1-101-810-11	100p 500V
C524	1-121-415-11	100 16V elect
C525	1-121-391-11	1 50V elect
C526	1-121-999-11	10 160V elect
C527	1-102-098-11	470p
C528	1-108-624-12	0.0068 100V mylar
C529,530	1-102-098-11	470p
C531	1-123-024-11	33 160V elect
C532	1-130-070-11	5000p 1.5 kV polyethylene
C533	1-102-155-11	330p 2 kV
C534	1-130-069-11	0.43 200V polyethylene
C535	1-129-953-11	0.068 1.5 kV polyethylene
C536	1-102-095-11	330p 1 kV
C537	1-121-654-11	330 25V elect
C538	1-102-030-11	330p 500V
C539	1-102-038-11	0.001 500V
C541	1-121-398-11	10 25V elect
C542	1-108-632-12	0.033 100V mylar
C543	1-121-391-11	1 50V elect
C544	1-108-632-12	0.033 100V mylar
C551,552	1-108-626-12	0.01 100V mylar
C553	1-108-640-12	0.15 100V mylar
C554	1-131-158-11	10 16V tantalum
C555	1-121-404-11	33 25V elect
C556	1-121-261-11	220 35V elect
C557	1-108-684-12	0.0022 200V mylar
C558	1-121-404-11	33 25V elect
C571	1-123-167-11	1.5 160V elect
C572	1-108-692-12	0.01 200V mylar
C573	1-108-698-12	0.033 200V mylar

Note: The shaded components are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
C574	1-121-989-11	330 25V elect
C575	1-102-038-11	0.001 500V
C577	1-102-212-11	820p 500V
C581	1-121-726-11	0.47 50V elect
C582	1-108-630-12	0.022 100V mylar
C583	1-102-110-11	220p
C591	1-102-114-11	470p
C601	1-108-745-12	0.22 125V mylar
C602	1-102-189-11	0.0047 150V
C606	1-125-074-11	470/10 200V elect (block)
C607	1-101-810-11	100p
C651	1-121-395-11	4.7 25V elect
C652	1-101-810-11	100p 500V
C653	1-102-832-11	330p
C654	1-121-398-11	10 25V elect
C655	1-121-999-11	10 160V elect
C701	1-130-064-11	0.1 800V polyethylene
C702	1-129-739-11	0.1 630V polyethylene
C703	1-102-249-11	680p 2 kV
C801	1-108-696-12	0.022 200V mylar
C802	1-121-262-11	10 250V elect
C911	1-102-155-11	330p 2 kV
CV201	1-141-138-XX	8p trimmer

RESISTORS

All resistors are in ohms. Regular-type ¼W carbon resistors are omitted.
Check schematic diagram for values.
All adjustable and variable resistors have characteristic curve B, unless otherwise noted. k = 1000, M = 1000 k

Ref. No.	Part No.	Description
R153	1-244-859-11	270 ½W carbon (KV-1215 only)
R230	1-213-131-11	100 1W metal oxide
R253	1-244-859-11	270 ½W carbon
R332	1-213-134-11	180 1W metal oxide

Note: The shaded components are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
R351	1-213-133-11	150 1W metal oxide
R359	1-213-133-11	150 1W metal oxide
R520	1-213-150-11	3.9 k 1W metal oxide (nonflammable)
R522	1-244-917-11	68 k ½W carbon
R523	1-211-550-11	1.8 k ¼W carbon (nonflammable)
R524	1-211-421-11	39 ⅛W carbon (nonflammable)
R525	1-206-523-11	33 3W metal oxide (nonflammable)
R526	1-244-859-11	270 ½W carbon
R529	1-213-126-11	39 1W metal oxide (nonflammable)
R531	1-206-455-11	4.7 2W metal oxide (nonflammable)
R536	1-213-163-11	47 k 1W metal oxide
R538	1-211-536-11	390 ¼W carbon (nonflammable)
R539	1-212-390-11	2.7 1W metal oxide (nonflammable)
R545	1-244-865-11	470 ½W carbon
R559	1-207-467-11	2.2 ½W wirewound
R563	1-211-526-11	150 ¼W carbon (nonflammable)
R565	1-211-512-11	39 ¼W carbon (nonflammable)
R571,572	1-211-687-11	3.3 ¼W carbon (nonflammable)
R573 – R578	1-210-860-11	1.2 ¼W carbon (nonflammable)
R585	1-213-153-11	6.8 k 1W metal oxide (nonflammable)
R593	1-244-917-11	68 k ½W carbon
⧓R595		¼W carbon (factory selected value)
R601	1-206-692-11	15 k 2W metal oxide (nonflammable)

⧓ : factory selected value

Ref. No.	Part No.		Description	
R602	1-213-160-11	27 k	1W	metal oxide (nonflammable)
R604	1-211-441-11	390	1/8 W	carbon (nonflammable)
R605	1-202-643-31	820	½W	composition
R606	1-206-700-11	33 k	2W	metal oxide
▣R608			¼W	carbon (factory selected value)
R611	1-211-929-11	82	1/8 W	carbon (nonflammable)
R657,658	1-211-602-11	33	½W	carbon (nonflammable)
R659	1-211-933-11	47	1/8 W	carbon (nonflammable)
R701~703	1-206-692-11	15 k	2W	metal oxide (nonflammable)
R704~706	1-202-585-31	3.3 k	½W	composition
R707	1-202-629-31	220k	½W	composition
R708	1-202-639-31	560 k	½W	composition
R709,710	1-202-633-31	330 k	½W	composition
R711	1-202-639-31	560 k	½W	composition
R712	1-217-516-11	1.8	2W	wirewound (nonflammable)
R713	1-202-613-31	47 k	½W	composition
R714	1-202-647-31	1.2 M	½W	composition
R715	1-202-651-31	1.8 M	½W	composition
R716	1-202-543-31	56	½W	composition
R717	1-202-625-31	150 k	½W	composition
R801	1-202-595-31	8.2k	½W	composition
R803,804	1-202-788-31	10 k	1W	composition
R805	1-213-133-11	150	1W	metal oxide (nonflammable)
R806	1-213-211-11	100 M	1W	bleeder
R901	1-205-805-11	180	20W	cement coated
R902	1-217-557-11	4.7	20W	cement coated
VR201	1-224-641-XX	470, adjustable; TU AGC		
VR202	1-224-640-XX	330, adjustable; SND REJ		
VR203	1-224-642-XX	1 k, adjustable; VIF AGC		
VR204	1-224-659-00	1 k/1 k, variable; PICTURE		
VR205/S901	1-222-342-XX	50 k-D, variable; VOLUME		

▣ : factory selected value

Ref. No.	Part No.	Description
VR301	1-224-642-XX	1 k, adjustable; ACC
VR302	1-224-644-XX	4.7 k, adjustable; HUE CENT
VR303	1-224-657-00	3 k-Z, variable; HUE
VR304	1-224-656-00	500, variable; COLOR
VR401	1-224-640-XX	330, adjustable; B.DRIVE
VR402	1-224-640-XX	330, adjustable; G.DRIVE
VR403	1-224-640-XX	330, adjustable; R.DRIVE
VR404	1-221-389-XX	5 k, adjustable; B.BKG
VR405	1-221-389-XX	5 k, adjustable; G.BKG
VR406	1-221-389-XX	5 k, adjustable; R.BKG
VR407	1-224-658-00	20 k, variable; BRIGHT
VR501	1-224-646-XX	22 k, adjustable; H.FREQ
VR531	1-223-067-00	120, adjustable; H.CENT
VR541	1-222-512-00	10 k, adjustable; PIN
VR551	1-224-658-00	20 k, variable; V.HOLD
VR552	1-222-807-XX	20 k, adjustable; V.SIZE
VR571	1-221-389-XX	5 k, variable; V.CENT
VR601	1-222-517-00	1 k, adjustable; 115 V ADJ
VR701	1-224-150-00	1 M, adjustable; SCRN
VR801	1-224-799-00	80 M, adjustable; H.STAT

MISCELLANEOUS

F601	1-532-271-XX	Fuse, 4 A
J901	1-507-372-00	Jack, earphone
NE901	1-519-108-XX	Lamp, neon; VHF
NE902	1-519-130-11	Lamp, neon; UHF
S151	1-516-933-00	Switch, pushbutton; AFT (KV-1215 only)
S301	1-516-933-00	Switch, pushbutton; AUTO
SG531	1-519-063-XX	Spark Gap, 1.5 kV
SG701~706	1-519-063-XX	Spark Gap, 1.5 kV
SP901	1-502-466-00	Speaker, 8 Ω
X301	1-527-154-00	Crystal
	1-452-032-00	Magnet, disk; 10 mm dia.

Note: The shaded components are critical for safety. Replace only with part number specified.

KV-1204
KV-1215

Note: The shaded components are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description
	1-452-060-21	Magnet, beam convergence compensation; HMC/VMC
	1-452-094-00	Magnet, rotatable disk; 15 mm dia.
	1-526-086-XX	Socket, picture tube
	1-526-553-00	Cap, anode
	1-534-630-14	Coaxial Cable with Plug
	1-534-872-21	Coaxial Cable with Plug

Ref. No.	Part No.	Description
	1-536-314-00	Antenna Terminal Board Ass'y
	1-536-378-XX	Terminal Strip, 1L2 type
	1-551-196-00	Cord, power
	8-737-401-05	Picture Tube, 330GB22

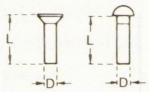
ACCESSORIES AND PACKING MATERIALS

Part No.	Description
X-3701-031-5	Card, warranty
Y-2063-103-0	Antenna, loop (AN-15)
Y-2201-611-8	Antenna, telescopic dipole (AN-16)
1-504-034-32	Earphone (ME-20B)
3-701-352-00	Bag, polyethylene
3-701-355-01	Label, tack
3-701-730-02	Envelope, IBM card
3-793-898-21	Tag, material
4-320-024-00	Sheet, protection (KV-1204 only)
4-320-025-00	Carton (KV-1215 only)
4-320-026-00	Cushion, right; lower (KV-1215 only)
4-320-027-00	Cushion, left; lower (KV-1215 only)
4-320-028-00	Cushion, left; upper (KV-1215 only)
4-320-029-00	Cushion, right; upper (KV-1215 only)
4-320-105-00	Carton (KV-1204 only)
4-320-106-00	Cushion, right; upper (KV-1204 only)
4-320-107-00	Cushion, left; upper (KV-1204 only)
4-320-108-00	Cushion, right; lower (KV-1204 only)
4-320-109-00	Cushion, left; lower (KV-1204 only)
4-491-039-12	Tag, VHF antenna
4-491-058-12	Tag, eye-catcher
4-491-107-22	Leaflet, instruction
4-493-214-12	Card, caution
4-495-559-21	Manual, instruction (KV-1204 only)
4-495-560-21	Manual, instruction (KV-1215 only)
7-822-282-01	Card, IBM (white)
7-822-282-02	Card, IBM (pink)
7-822-282-03	Card, IBM (green)

HARDWARE NOMENCLATURE

Screw:

– P 3 x 10
- *L: Length in mm*
- *D: Diameter in mm*
- *Type of head*
- *Indicated slotted-head only.*
- *Unless otherwise indicated, it means cross-recessed head (Phillips type).*



Nut, Washer, Retaining ring:

N 3
- *Diameter of usable screw or shaft*
- *Reference designation*

Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	

Sony Corporation